



# M A C K A Y

Since 1932 Mackay Consolidated Industries has made a unique and valuable contribution to Australian industry. It's a success story of expertise in engineering and manufacturing; of adaptability to changing demands and diverse markets; of growth through research, technology and development.

The company has been singularly successful in the specialised field of developing effective noise and vibration control products.

Mackay Consolidated Industries proudly represents and holds sole regional distributor agencies for Paulstra and Continental vibration control products.

By combining selections from the ranges of each of these leading international companies with our Australian developed and manufactured products, we are able to offer a most comprehensive program of engineered isolators.

For applications requiring special design or isolation characteristics, we have in Australia an experienced engineering team who, with the assistance of CAD 3-D modelling and finite element analysis, back our custom isolator manufacturing service.

Our laboratory is NATA accredited and utilises state-of-the-art technology and systems.

At Mackay we are committed to attaining the highest standards possible from the purchase of raw materials to the final product. Our quality system complies with AS/NZS ISO 9001:2000 ISO/TS16949:2002 and ISO14001:2004.

Our vast product range includes dock fenders, bridge bearings, EPDM foam seals, moulded hoses, marine engine mounts, seals for whitegoods, rolling stock components, sheet rubber and products for many construction applications.

We at Mackay Consolidated Industries are committed to excellence.



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MEPS107.....	117	MSE147S.....	119	SHF63.....	110		
MEPS109.....	117	MSE1613.....	118	SHW19.....	110		
METS100.....	117	MSE1616.....	118	SHW22.....	110		
METS20.....	117	MSE1710.....	118	SHW25.....	110		
METS25.....	117	MSE175.....	118	SHW28.....	110		
METS40.....	117	MSE1910.....	118	SHW32.....	110		
METS50.....	117	MSE1913.....	118	SHW35.....	110		
METS75.....	117	MSE1919.....	118	SHW41.....	110		
MSDD100350A0.....	131	MSE196.....	118	SHW44.....	110		
MSDD130650A0.....	131	MSE203.....	118	SHW48.....	110		
MSDD200650A0.....	131	MSE2213.....	118	SHW51.....	110		
MSDD201050A0.....	131	MSE2222.....	118	SHW54.....	110		
MSDD201650A0.....	131	MSE251.5.....	118	SHW57.....	110		
MSDD252550A0.....	131	MSE2510.....	118	SHW63.....	110		
MSDD350650A0.....	131	MSE2513.....	118	T604.....	90		
MSDD351050A0.....	131	MSE2519.....	118	T604TD.....	90		
		MSE2525.....	118	TPH1.....	94		
		MSE253.....	118	TPH1002.....	113		
		MSE255.....	118	TPH1005.....	113		
		MSE256.....	118	TPH1010.....	113		
		MSE256BNOSE.....	118	TPH17.....	94		
		MSE3213.....	118	TPH21.....	94		
		MSE3219.....	118	TPH30.....	94		

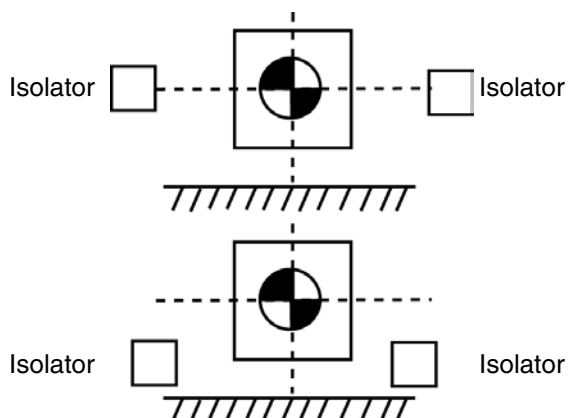
## SELECTION PRINCIPLES:

### TEMPERATURE

Extremes of temperature can affect the service life of rubber isolators. Generally, operating temperature should not exceed 60° C but occasional temperatures of up to 80° C can be accommodated.

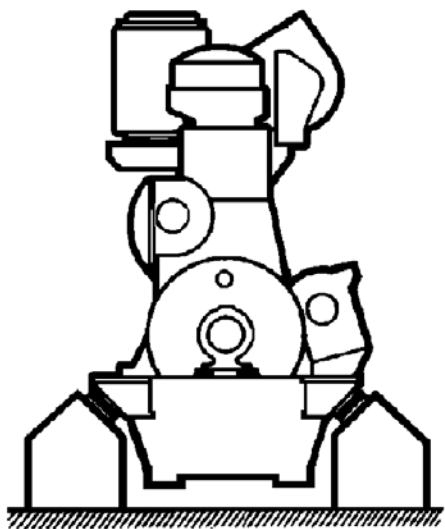
### PROTECTION

While most rubber compounds deteriorate if in constant contact with oil or grease, experience has shown that small amounts of oil will not cause a reduction in the mechanical properties of elastomers. It is advisable where oil or grease is prevalent to install isolators so that contact is avoided.



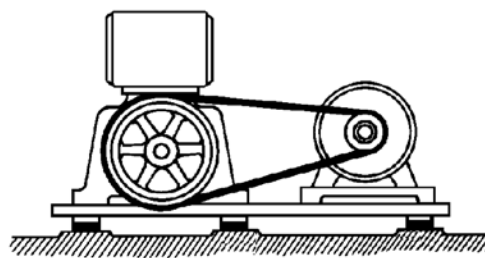
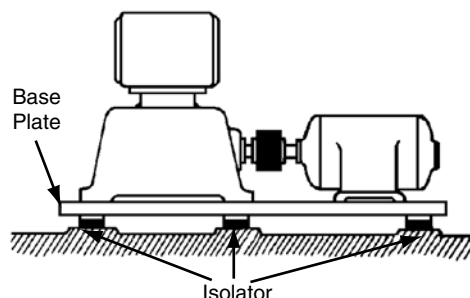
### MOUNT POSITIONING

The stability of a resiliently supported mechanism is greatest when the isolators are in a horizontal plane passing through the centre of gravity of the mechanism or where the isolators are placed far away from the centre of gravity. Most machines, because of their design, require mounting below the centre of gravity which tends towards instability. For this reason, a small percentage of the isolators efficiency must be sacrificed for the sake of mechanical stability.



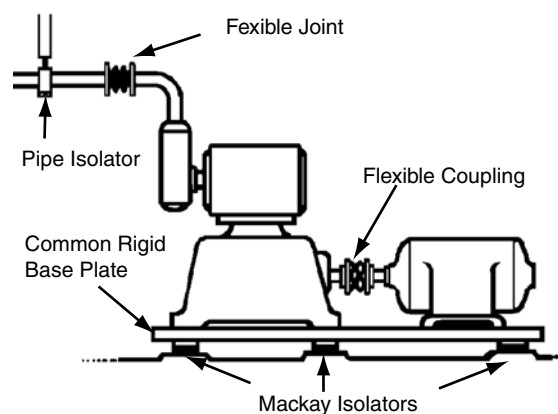
### STABILITY

To maintain stability and relative positions between the drive and belt driven units, install both on a common rigid baseplate and then resiliently support the baseplate.



### FLEXIBLE COUPLINGS

The efficiency of a resilient isolator under a mechanism can be seriously impaired by the rigidity of the connecting members, such as water and steam pipes, conduit etc. For best performance, it is essential all connecting members be joined as flexibly as possible using flexible couplings and flexible joints.



### SELECTION

The main consideration is to select the isolator to carry the load as shown in the load rating charts, giving preference to the top end of the ratings, and then choosing the one to suit your specific fitting requirements. Mackay isolators have each been engineered to specific requirements of deflections under working conditions and providing the disturbing or forced frequency is above 15Hz, selection is simple.

Note The products featured in this catalogue are supplied by Mackay Consolidated Industries Pty Ltd to suit the vehicle models indicated .

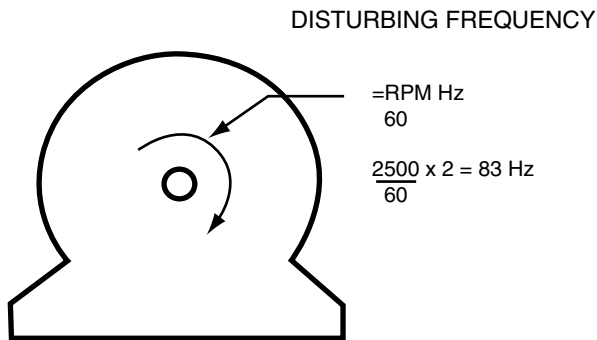
## LOW FREQUENCY SELECTION

When frequencies under 15Hz are encountered or when there are HEAVY impact loads imposed on the isolator, consult with Mackay's technical division for advice. For normal purposes, the disturbing frequency can be considered as the revolutions per second of the offending item; i.e.  $\frac{R.P.M.}{60}$

## MULTI-CYLINDER ENGINES

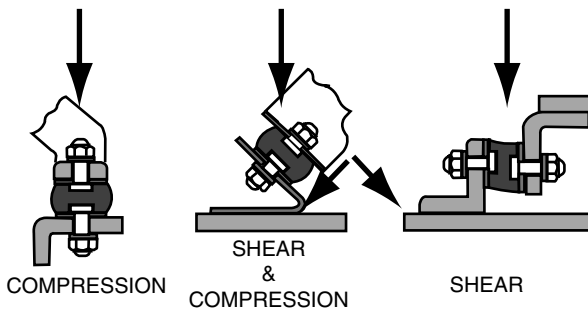
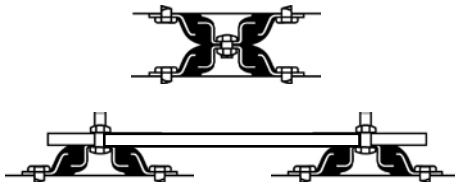
In multi-cylinder engines it is usually the number of working impulses per revolution which constitutes the disturbing frequency.

e.g. Two cylinder engine direct drive operating at 2500 r.p.m. = Disturbing Frequency of 83 Hz.



## SERIES AND PARALLEL ASSEMBLIES

The isolation efficiency of low disturbing frequencies can be increased by using two isolators in series. This effectively doubles the deflection obtained with one isolator of the same load carrying capacity - by placing them in parallel, you double the load rating at the same deflection



## CALCULATING DEFLECTIONS

If the isolator selected has a higher load carrying rating than required, the deflection of your actual loading can be calculated approximately by using this formula;

$$\frac{\text{RATED DEFLECTION} \times \text{ACTUAL LOAD}}{\text{RATED LOAD}}$$

and then referring to the graph illustrated, the isolation efficiency can be ascertained (should always exceed 70% under normal operating conditions).

## DISTURBING FREQUENCIES & DEFLECTIONS

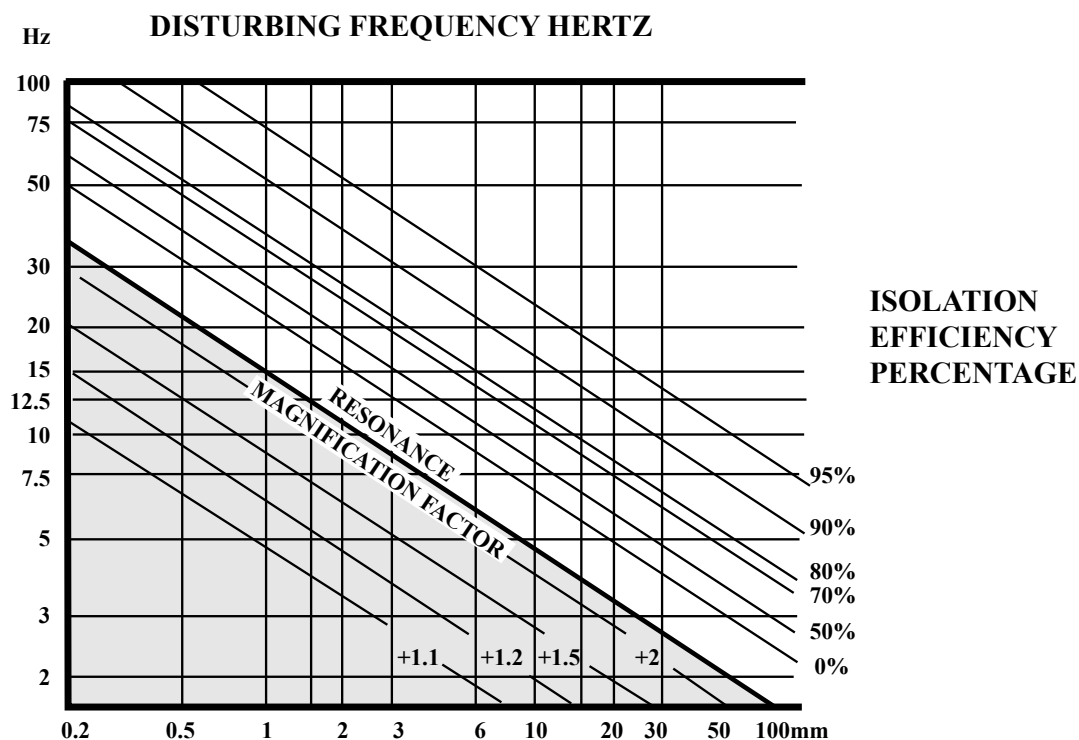
The graph illustrates the percentage of vibration isolation that is possible to obtain for simple linear vibration in a resiliently mounted assembly with various combinations of static deflection and disturbing frequencies.

The area (shaded) below the resonance line indicates the region of magnification of the vibration that occurs when the ratio of the disturbing frequency to the natural frequency of the mounted assembly is less than the square root of 2. The area above the resonance line shows the percentage of the vibratory forces that are prevented from reaching the supporting structure when correct isolators are selected. Example; With a disturbing frequency of 5 Hz and a deflection of 30mm you will obtain an isolating efficiency of 50%, while with a deflection of 3mm your vibration will magnify by a factor of 1.5. When referencing the load and deflection data shown within this catalogue it should be noted that they are static values and allowances should be factored in to obtain an accurate dynamic stiffness value. As shown in the table below.

Further advice on vibration isolation applications or comprehensive technical information is available on request from the Technical Department at Mackay Consolidated Industries.

Dynamic / Static Ratio	
Duro	Ratio
35	1.0
40	1.1
45	1.1
50	1.2
55	1.3
60	1.4
65	1.5
70	1.7
75	1.8

$$\text{Static Stiffness} \times \text{Ratio} = \text{Dynamic Stiffness}$$



To assist you in selecting the correct isolator from the Mackay range we have listed the isolation efficiency that should be used under normal conditions of operation. The isolation efficiency at any given deflection and disturbing frequencies can be obtained by using the simple graph above.

## SUGGESTED ISOLATION EFFICIENCY GUIDE

	Factories, Schools, Dept. Stores ISOLATION EFFICIENCY	Hospitals, Theatres, Libraries ISOLATION EFFICIENCY
AIR HANDLING UNITS	80%	94%
AXIAL FLOW FANS	UP TO 8 kW 8kW to 38 kW	70% 90%
	MORE THAN 38kW	75% 94%
		80% 96%
CENTRIFUGAL COMPRESSORS		94% 99.5%
CENTRIFUGAL FANS	UP TO 4kW 4kW TO 18kW	70% 94%
	MORE THAN 18kW	80% 96%
		90% 98%
FAN COIL UNITS	HUNG	80% 90%
	SUPPORTED	90% 96%
PIPES	HUNG	70% 90%
PUMPS	UP TO 2 kW	70% 94%
	2kW TO 4kW	80% 96%
	MORE THAN 4 kW	90% 98%
RECIPROCATING COMPRESSORS	UP TO 8kW 8 kW TO 38kW	70% 94%
	MORE THAN 38kW	80% 96%
		90% 98%
UNIT AIR CONDITIONERS	HUNG	80% 90%
	SUPPORTED	90% 96%

Note The products featured in this catalogue are supplied by Mackay Consolidated Industries Pty Ltd to suit the vehicle models indicated .

# Multicushions

## Section 1



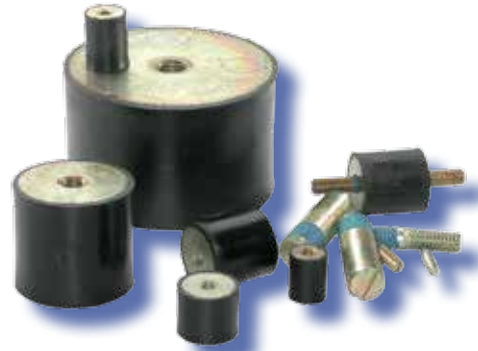
Note The products featured in this catalogue are supplied by Mackay Consolidated Industries Pty Ltd to suit the vehicle models indicated .

# Multicushion

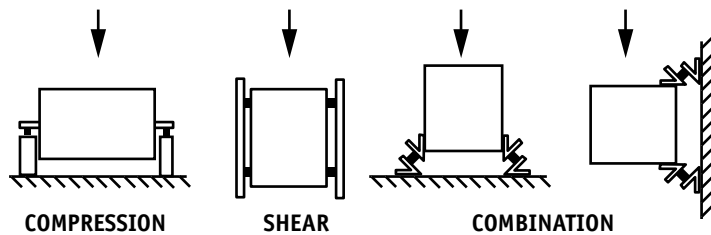
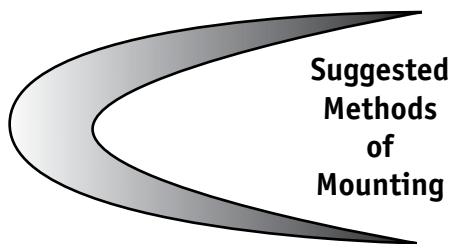
The MULTICUSHION system is a new approach to isolator selection. The large range of sizes and durometers combined with interchangeable metric and imperial studs allows selection of the most appropriate cushion isolator for the application

First choose the best cushion for the application and then choose the desired stud combination.

MULTICUSHION isolators are made from high-grade natural rubber and all metal surfaces are passivated to automotive OEM standards. The interchangeable studs are easily inserted with a screw driver whilst the *microBOND™* 'fastener adhesive system' provides secure thread locking.



**Note!** *Multicushions are not recommended for use under permanent tension loading. Ensure load is applied to full face and not just on the thread.*



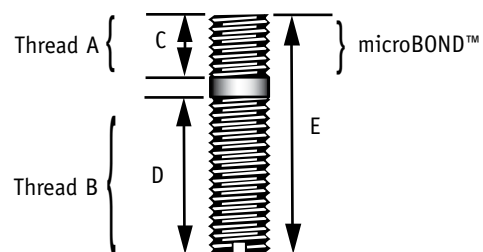
## STUD DETAILS

MULTICUSHION Stud Part No	THREADS		DIMENSIONS		
	A mm	B mm	C mm	D mm	E mm
M4M4	M4 x 0.7	M4 x 0.7	4	15	19 *
M4M5	M4 x 0.7	M5 x 0.8	4	15	20.5
M4W316	M4 x 0.7	3/16"WHIT x 24tpi	4	15	20.5
M6M6	M6 x 1.0	M6 x 1.0	6	15	21 *
M6M8	M6 x 1.0	M8 x 1.25	6	20	28
M6W316	M6 x 1.0	3/16"WHIT x 24tpi	6	15	22.5
M6W14	M6 x 1.0	1/4"WHIT x 20tpi	6	15	22.5
M8M8	M8 x 1.25	M8 x 1.25	8	20	28 *
M8M10	M8 x 1.25	M10 x 1.5	8	25	35
M8W516	M8 x 1.25	5/16"WHIT x 18tpi	8	20	31
M10M10	M10 x 1.5	M10 x 1.5	10	25	37 *
M10M12	M10 x 1.5	M12 x 1.75	10	35	49
M10W38	M10 x 1.5	3/8"WHIT x 16tpi	10	25	39
M16M16	M16 x 2.0	M16 x 2.0	16	40	56 *

\* Denotes continuous thread

## microBOND™ Thread Security

Thread	Prevailing on-torque (max) Nm	Breakaway off-torque (min) Nm	Prevailing off-torque (min) Nm
M4	-	-	-
M6	1.8	1.5	0.8
M8	2.8	4	2
M10	5.5	11	4
M16	14	33	16



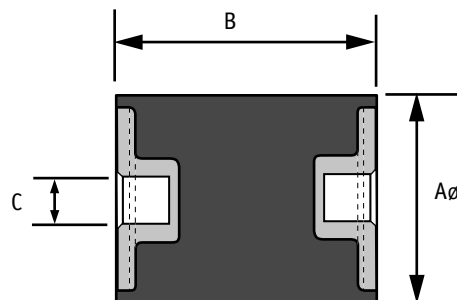
microBOND™ is a trade mark of W.A. Deutscher Pty Ltd

## CUSHION DETAILS

Part Number	Dimensions		Duro	C metric	Compression		Shear	Maximum Deflection mm	Weight Kg
	Diameter A mm	Height B mm			Maximum Load Kg	Maximum Deflection mm	Maximum Load Kg		
M10131540	13	15	40	M4	13.0	2.5	2.5	3.0	
M10131555	13	15	55	M4	25	2.5	4.5	3	0.01
M10131570	13	15	70	M4	34	2.5	6	3	
M10162040	16	20	40	M6	20.5	3	4.5	4	
M10162055	16	20	55	M6	42.5	3	9	4	0.01
M10162070	16	20	70	M6	53.5	3	12	4	
M10202540	20	25	40	M6	30.5	6	5	6	
M10202555	20	25	55	M6	65	6	11	6	0.02
M10202570	20	25	70	M6	89.5	6	15	6	
M10252040	25	20	40	M6	36	2.5	7	3	
M10252055	25	20	55	M6	54	2.5	12	3	0.02
M10252070	25	20	70	M6	66	2.5	15	3	
M10253040	25	30	40	M6	55	8	10.5	8	
M10253055	25	30	55	M6	98	8	19	8	0.03
M10253070	25	30	70	M6	120	8	26.5	8	
M10302040	30	20	40	M6	42	2.5	8	3	
M10302055	30	20	55	M6	62	2.5	13	3	0.03
M10302070	30	20	70	M6	82	2.5	16	3	
M10303040	30	30	40	M8	44	4	10	5	
M10303055	30	30	55	M8	77	4	18	5	0.05
M10303070	30	30	70	M8	108	4	33	5	
M10304040	30	40	40	M8	49.5	8	9	10	
M10304055	30	40	55	M8	86	8	17.5	10	0.06
M10304070	30	40	70	M8	131	8	35	10	
M10403040	40	30	40	M8	60.5	4	17.5	5	
M10403055	40	30	55	M8	114	4	28.5	5	0.08
M10403070	40	30	70	M8	195	4	49.5	5	
M10404040	40	40	40	M8	78	8	20	10	
M10404055	40	40	55	M8	148	8	34	10	0.09
M10404070	40	40	70	M8	233	8	53.5	10	
M10503540	50	35	40	M10	139.5	6	21.5	6	
M10503555	50	35	55	M10	264	6	40.5	6	0.14
M10503570	50	35	70	M10	363	6	59	6	
M10504540	50	45	40	M10	111.5	8	25	10	
M10504555	50	45	55	M10	195	8	44.5	10	0.16
M10504570	50	45	70	M10	244	8	62	10	
M10755040	75	50	40	M10	390	12	76	13	
M10755055	75	50	55	M10	733	12	140	13	0.4
M10755070	75	50	70	M10	986	12	208	13	
M101006040	100	60	40	M16	510	10	100	10	
M101006055	100	60	55	M16	955	10	180	10	0.8
M101006070	100	60	70	M16	1500	10	306	10	
M101507540	150	75	40	M16	1500	18	277	20	
M101507555	150	75	55	M16	3200	18	525	20	2.2
M101507570	150	75	70	M16	4500	18	760	20	

## COLOUR CODE

DURO	COLOUR
40	RED
55	YELLOW
70	Marked 70





## STAINLESS STEEL

Stainless steel Multicushion isolators are manufactured in the most popular sizes from high grade natural rubber and stainless steel (type 304) metal components.

Available in two rubber hardnesses the cushions are supplied without fixing studs. Mackay recommends fixing with appropriate stainless steel hexagonal socket set screws used with an appropriate locking compound



\* Consult with Mackay Technical staff to ensure natural rubber is suitable for use in corrosive environments or solvents.

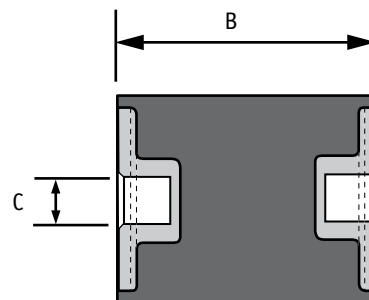
**Note!** Multicushions are not recommended for use under permanent tension loading.  
Ensure load is applied to full face and not just on the thread.

## CUSHION DETAILS

Part Number	Dimensions		Duro	C metric	Compression		Shear		Weight Kg
	Diameter A mm	Height B mm			Maximum Load Kq	Maximum Deflection mm	Maximum Load Kq	Maximum Deflection mm	
M11202540	20	25	40	M6	30.5	6	5	6	0.02
M11202555	20	25	55	M6	65	6	11	6	0.02
M11252040	25	20	40	M6	36	2.5	7	3	0.02
M11252055	25	20	55	M6	54	2.5	12	3	0.02
M11253040	25	30	40	M6	55	8	10.5	8	0.03
M11253055	25	30	55	M6	98	8	19	8	0.03
M11302040	30	20	40	M6	42	2.5	8	3	0.03
M11302055	30	20	55	M6	62	2.5	13	3	0.03
M11303040	30	30	40	M8	44	4	10	5	0.05
M11303055	30	30	55	M8	77	4	18	5	0.05
M11304040	30	40	40	M8	49.5	8	9	10	0.06
M11304055	30	40	55	M8	86	8	17.5	10	0.06
M11403040	40	30	40	M8	40.5	4	17.5	5	0.09
M11403055	40	30	55	M8	114	4	28.5	5	0.09
M11404040	40	40	40	M8	78	8	20	10	0.1
M11404055	40	40	55	M8	148	8	34	10	0.1
M11503540	50	35	40	M10	139.5	6	21.5	6	0.14
M11503555	50	35	55	M10	264	6	40.5	6	0.14
M11504540	50	45	40	M10	111.5	8	25	10	0.16
M11504555	50	45	55	M10	195	8	44.5	10	0.16

## COLOUR CODE

DURO	COLOUR
40	RED
55	YELLOW



# Section 2

## Buffers



Note The products featured in this catalogue are supplied by Mackay Consolidated Industries Pty Ltd to suit the vehicle models indicated .

## Including Multibuffer stainless

Multibuffers are designed for inexpensive and effective control of vibration shock and acoustic noise and are equally adaptable in controlling impact or for use as simple machine feet.

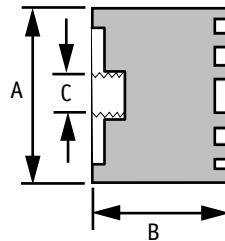
The Multibuffer face profile has been designed to provide a simple slip resistant surface whilst maintaining optimum impact and static properties

Uses Optional Stud System! (not available with stainless steel)



## BUFFER DETAILS

Standard Part No	Stainless Type 304	A (mm)	B (mm)	C metric	Duro	Static		Buffing		Weight Kg
						Load Kg	Def mm	Load Kg	Def mm	
M12201855	M13201855	20	18	M6	55	26	2.5	57	5	0.01
M12252555	M13252555	25	25	M6	55	25	3	53	6	0.02
M12302055	M13302055	30	20	M8	55	46	2.5	105	5	0.03
M12303055	M13303055	30	30	M8	55	47	3.5	94	7	0.04
M12402055	M13402055	40	20	M8	55	78	2.5	184	5	0.05
M12403055	M13403055	40	30	M8	55	78	3.5	162	7	0.06
M12503555	M13503555	50	35	M10	55	157	4	316	8	0.1
M12754055		75	40	M10	55	323	4.5	696	9	0.3
M121004055		100	40	M16	55	637	4.5	1284	9	0.5
M121505555		150	55	M16	55	1382	6	2950	12	1.4



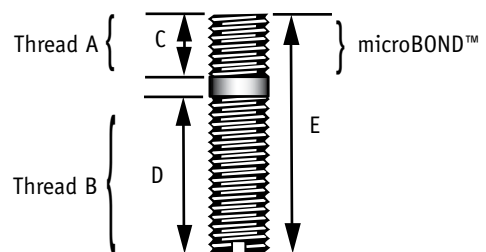
## OPTIONAL STUD SYSTEM STUD DETAILS

MULTIBUFFER Stud Part No	THREADS		DIMENSIONS		
	A	B	C mm	D mm	E mm
M6M6	M6 x 1.0	M6 x 1.0	6	15	21 *
M6M8	M6 x 1.0	M8 x 1.25	6	20	28
M6W316	M6 x 1.0	3/16"WHIT x 24tpi	6	15	22.5
M6W14	M6 x 1.0	1/4"WHIT x 20tpi	6	15	22.5
M8M8	M8 x 1.25	M8 x 1.25	8	20	28 *
M8M10	M8 x 1.25	M10 x 1.5	8	25	35
M8W516	M8 x 1.25	5/16"WHIT x 18tpi	8	20	31
M10M10	M10 x 1.5	M10 x 1.5	10	25	37 *
M10M12	M10 x 1.5	M12 x 1.75	10	35	49
M10W38	M10 x 1.5	3/8"WHIT x 16tpi	10	25	39
M16M16	M16 x 2.0	M16 x 2.0	16	40	56 *

\* Denotes continuous thread

## microBOND™ Thread Security

Thread	Prevailing on-torque (max) Nm	Breakaway off-torque (min) Nm	Prevailing off-torque (min) Nm
M6	1.8	1.5	0.8
M8	2.8	4	2
M10	5.5	11	4
M16	14	33	16

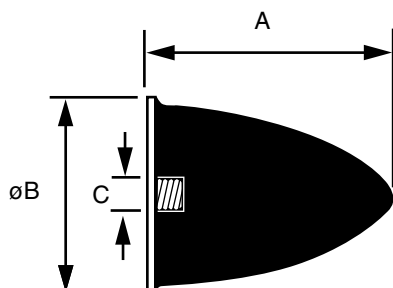


For **inexpensive** and **effective control** of machinery **vibration** , **shock** and **acoustic noise**.

These buffers are used for controlling impact and may be used as snubbing rubbers when excessive shock loads are encountered in resiliently mounted equipment.

## FEATURES

Designed specifically to control impact and torque reaction loads.

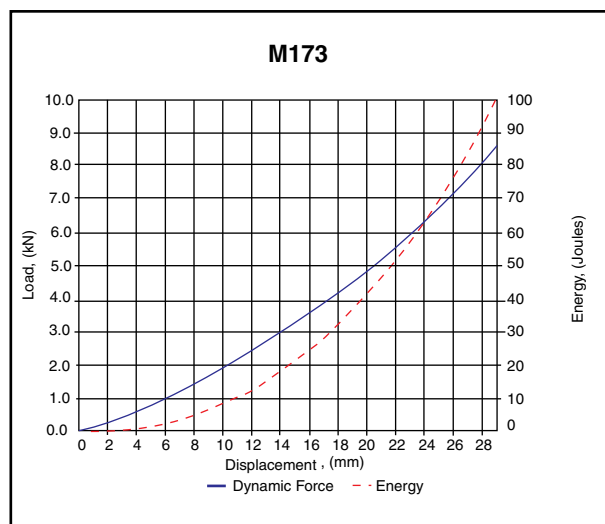
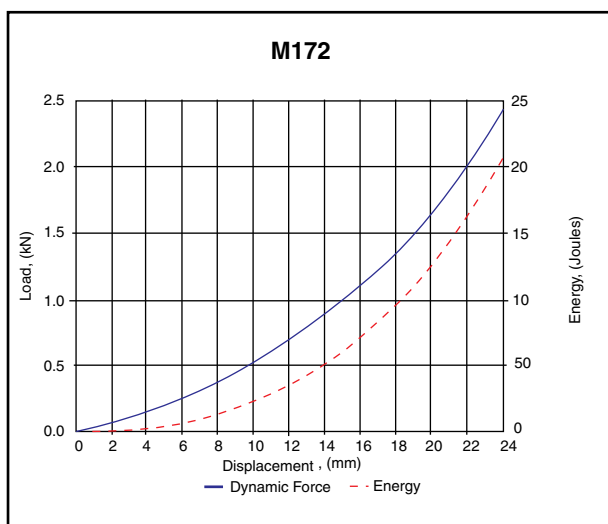


**\*Uses Multicushion Studs**  
refer optional Stud System Stud Details



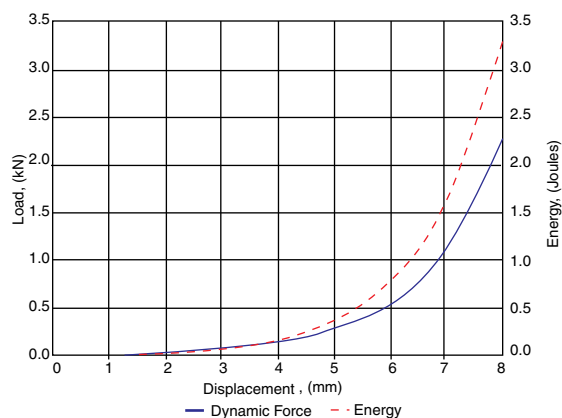
PART No.	A	B	C	Max LOAD Kg f
M172M8	50	42	M8	250
M173M10	65	51	M10	870
M115008	19	25	M8	230
M115009	30	30	M6	150
* M115014	58	72	M12	660
M115015	80	95	M16	1100

\* Multicushion studs not available for this size

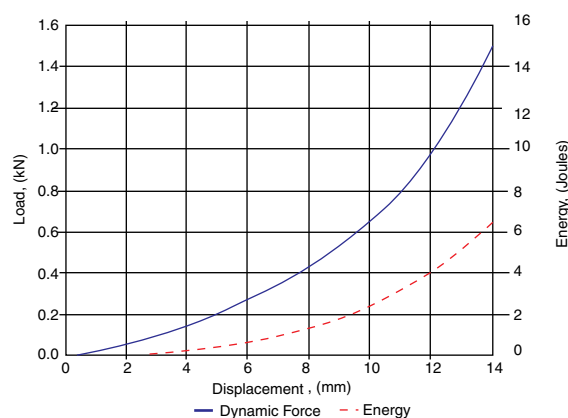


## Conical buffers

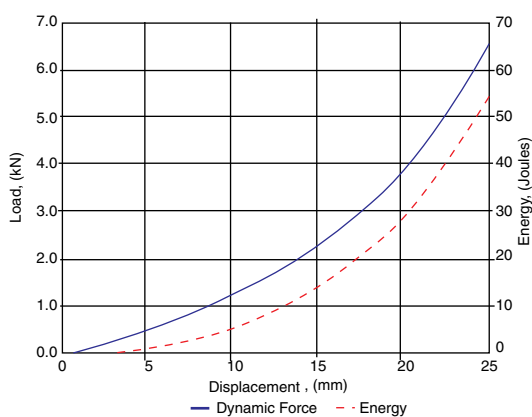
**M115008**



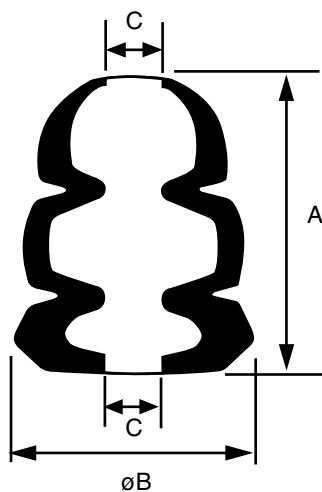
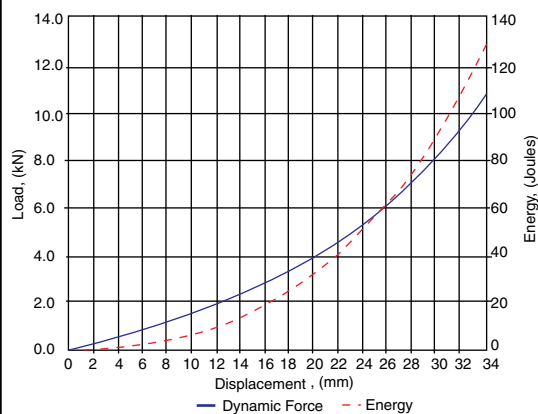
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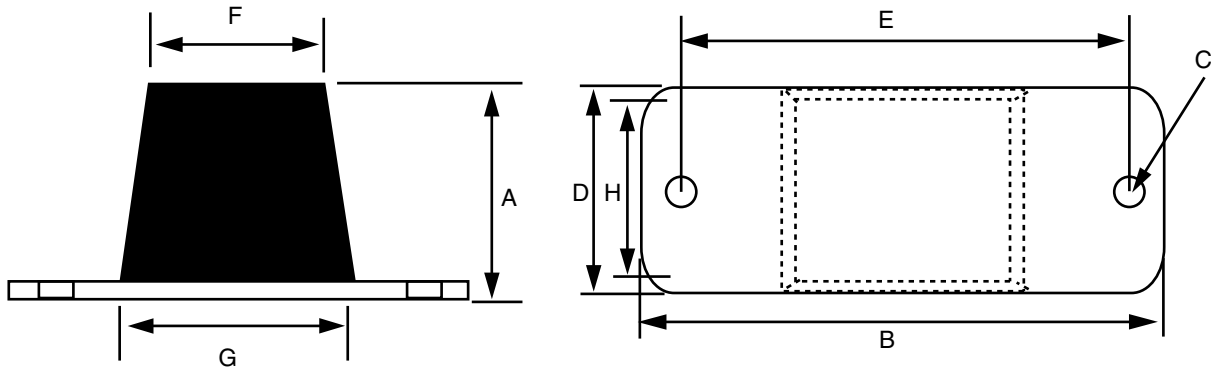
**M115014**



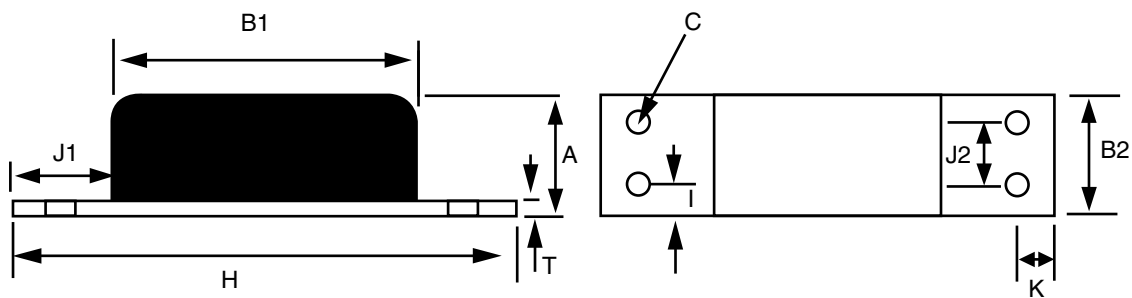
**M115015**



PART No.	A	B	C	STATIC LOAD Kg	DEF mm	BUFFING LOAD Kg	DEF mm	WEIGHT Kg
M190	103	79	20	150	25	450	45	0.3



PART No.	A	B	C	D	E	F	G	H	STATIC LOAD Kg	DEF mm	BUFFING LOAD Kg	DEF mm	WEIGHT Kg
<b>M176</b>	73	127	10	44	101	51	76	32	87	10	200	20	0.3



PART No.	A	B1	B2	C	H	I	J1	J2	K	T	STATIC LOAD Kg	DEF mm	BUFFING LOAD Kg	DEF mm	WEIGHT Kg
<b>M50925080AN55*</b>	70	70	50	8.5	130	25	30	-	15	5	120	10	1000	30	0.5
<b>M50924472AN55</b>	80	120	100	13	200	25	40	50	20	10	700	10	3600	29	2.4
<b>M50921422AN55</b>	70	150	120	15	250	30	50	60	25	10	1300	9	6000	24	3.4
<b>M50921055AN55</b>	80	200	150	17	300	35	50	80	25	15	2250	10	10000	25	7.1

\*Two hole fixing

## Bonded Buffers

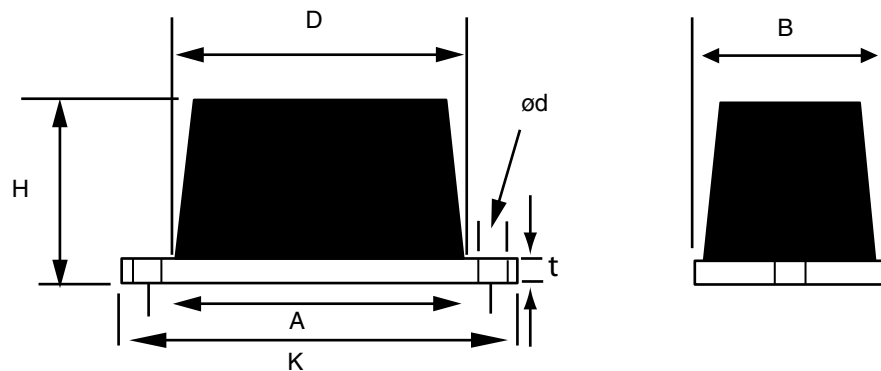
### Features

This rectangular buffer is easily fitted. Reduction of transmitted shock loads enables equipment to be designed more economically.

This buffer is designed to protect structures and equipment from impact forces. It is usually fitted as non-metallic stops or incorporated in vehicle suspension systems to provide progressive stiffening under increasing load.

Typical applications:

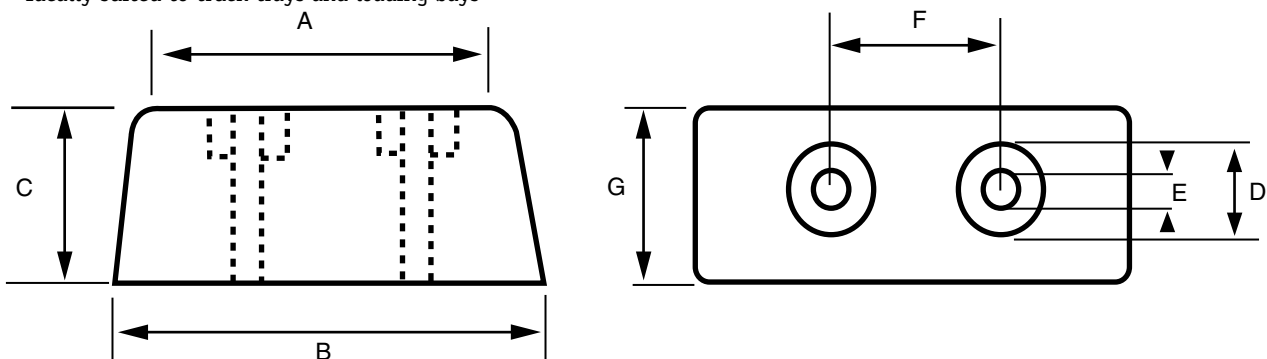
- Dump trucks
- Off-road vehicles
- Cranes
- Handling equipment
- Vehicle suspensions



Part No	Dimensions							Compression		
	A	B	D	H	K	d	t	Load Kg	Def mm	Weight Kg
M15260	127	64	89	37	156	13.5	6.3	250	13	0.6

### Moulded Docking Buffer

Ideally suited to truck trays and loading bays



Part No.	A	B	C	D	E	F	G	WEIGHT Kg
DB15090	145	150	90	40	13.5	75	76	1.2
DB15575	150	155	75	36	14	87	65	0.72
DB19555	185	195	50	32	11	120	55	0.62



## ANB Buffers

### Features

Buffer type ANB consists of a cylindrical rubber body bonded to a square baseplate of steel. Each corner of the baseplate has a fixing hole.

Special high-hysteresis rubber compound is used to ensure as much energy absorption as possible. The volume of the rubber is used at optimum efficiency.

For new machine developments simpler designs and lighter calculated forces can be considered enabling a lower cost.

### type ANB

The shockbuffer type ANB is used to effectively limit movement of equipment or machine components.

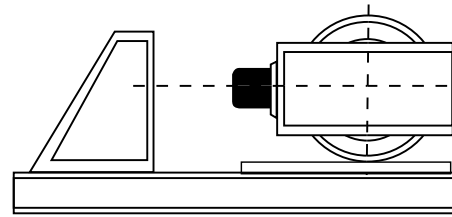
### Typical field applications would be:

- Wagons
- Traversing cranes
- Lifting cranes
- Working beams
- Falling goods
- Cabinets
- Forestry vehicles
- Off-road material handling equipment
- Container handling equipment

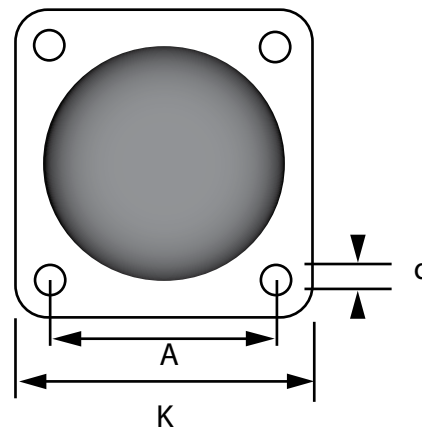
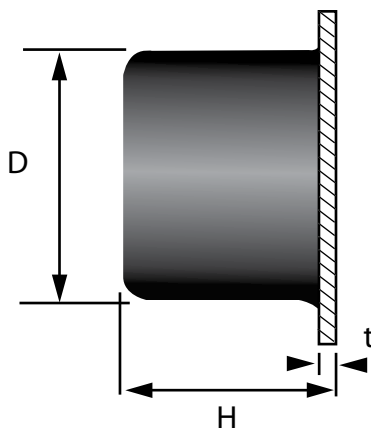
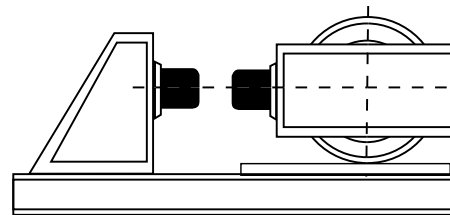
Through the low resilience of the rubber a high degree of energy absorption is achieved. The rubber is stiffer under dynamic conditions compared to static or pseudo static loading; hence more energy is absorbed for a given deformation.



Traverse crane with shock Buffer ANB



Traverse crane with 2 ANB Buffers connected in series



Part No	Dimensions						Compression		Weight Kg
	K	A	D	d	H	t	Load Kg-F	Def mm	
M2255290	70	50	50	7	43	3	816	21	0.2
M2255300	100	75	75	9	63	3	2000	30	0.5
M2255310	130	100	100	11	84	4	4100	40	1.2
M68569	185	150	150	13.5	126	6	9100	60	3.9
M68577	240	200	200	13.5	168	8	18300	82	9.1



# Flanged Isolators non interlocked

## Section 3



Note The products featured in this catalogue are supplied by Mackay Consolidated Industries Pty Ltd to suit the vehicle models indicated .

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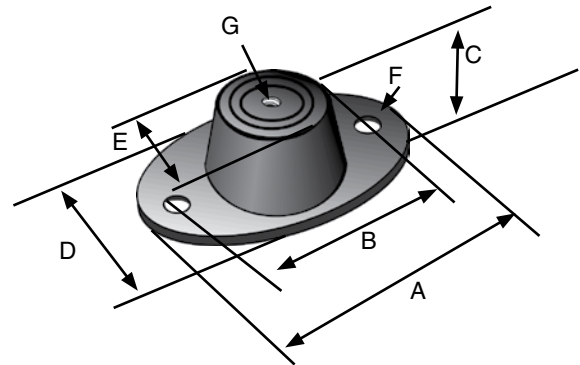
[www.mackayrubber.com.au](http://www.mackayrubber.com.au)

Conflex isolators are designed to meet almost all machinery installations within the load range. available in four rubber hard-nesses they are the versatile answer to your mobile or static vibration problems.

Rubber base for anti skid when used without bolting base to the floor



Elliptical Base

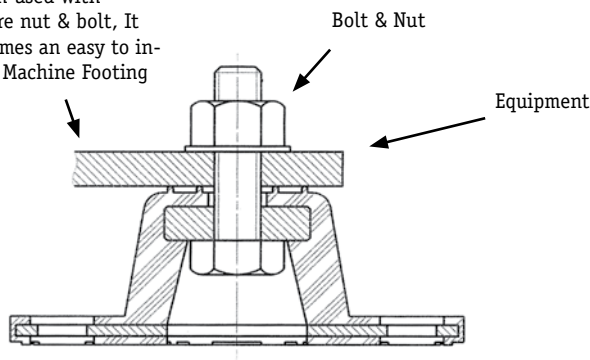


Available in Neoprene for "NM12" suffix part numbers

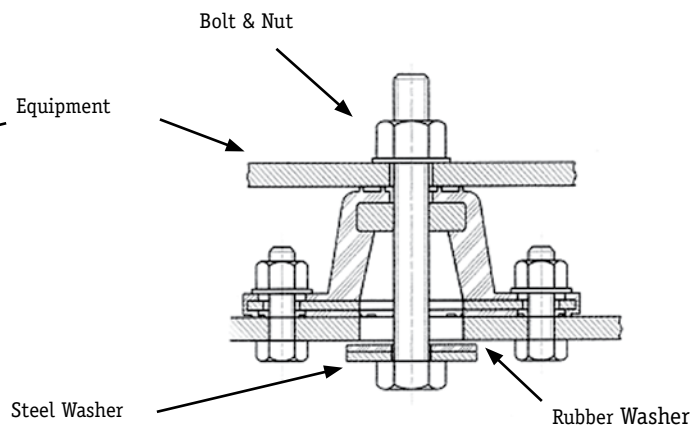
Part No	A	B	C	D	E	F	G	Weight Kg	Tightening Torques Nm
M1111##	80	60	28	50	31	8.5	M8	0.05	10
M1112##	100	76	32	60	46	8.5	M10	0.15	15
M1112##NM12	100	76	32	60	46	8.5	M12	0.15	15

## STATIONARY APPLICATION

When used with centre nut & bolt, It becomes an easy to install Machine Footing



## MOBILE APPLICATION



**Note:**

**Rubber & Steel washer not supplied by Mackay Consolidated**

Part No	Maximum Load Kg	Deflection at Max. Load mm	Shear Kg	DEF mm	Duro	Colour Code	Weight Kg
M111135	30	4.5	6	5	35	Green	0.08
M111145	40	5	10	5	45	Red	0.08
M111155	50	5.5	15	5	55	Yellow	0.08
M111165	75	5	20	5	65	White	0.08
M111235	90	6	20	6	35	Green	0.15
M111235NM12-RED	90	6	20	6	35	Red	0.15
M111245	110	6	25	6	45	Red	0.15
M111255	160	6	40	6	55	Yellow	0.15
M111255NM12-GRN	160	6	40	6	55	Green	0.15
M111265	250	6	65	6	65	White	0.15
M111265NM12-GRY	250	6	65	6	65	Grey	0.15

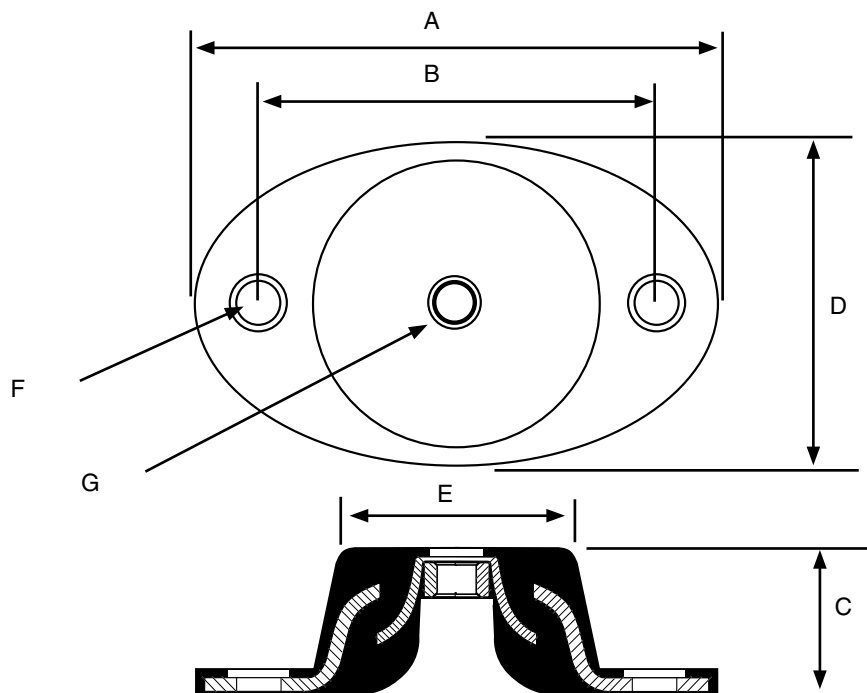
all properties nominal, contact Mackay for Technical advice

All Dimensions in Millimetres

## Stainless Steel Conflex Safety Interlocked Isolator

Similar dimensions to M1112 ## Isolators with the inclusion of internal safety interlocks for failsafe protection.

Manufactured in high grade oil resisting rubber compound and type 304 stainless steel for marine and corrosive applications.



Part No	A	B	C	D	E	F	G	Weight Kg
M1113SN30	100	76	28.5	60	46	8.5	M8	0.2
M1113SN40	100	76	28.5	60	46	8.5	M8	0.2
M1113SN50	100	76	28.5	60	46	8.5	M8	0.2
M1113SN60	100	76	28.5	60	46	8.5	M8	0.2
M1113SN70	100	76	28.5	60	46	8.5	M8	0.2

### Nominal Characteristics

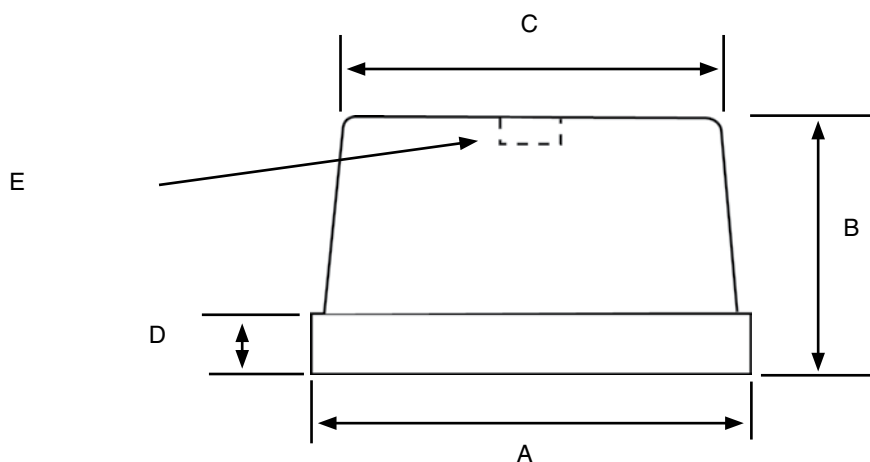
Part No	Max Load Kg	Max Def mm	Colour Code
M1113SN30	70	2.5	Green
M1113SN40	130	2.5	Red
M1113SN50	210	2.5	Yellow
M1113SN60	270	2.5	White
M1113SN70	330	2.5	Silver

## CONFLEX FOOT ISOLATOR

The Conflex Foot Isolator is similar in style to our existing range but is supplied minus the two holed fixing flange. Designed as a free standing isolator for use under a wide range of equipment it requires no fixing to the floor, simply attach to the equipment and lower into position

Typical applications include:

- Small portable Petrol / Diesel driven equipment
- Pumps
- Air conditioning units



## DIMENSIONS

A	B	C	D	E	Weight Kg
58	35	46	9	M8	0.12

## STATIC DEFLECTION AT MAXIMUM LOAD

Part No	Duro	Load Kg	Def mm
M112235M8	35	80	6

## DESCRIPTION

The V-shaped Generator supports are comprised of two symmetrically-tilted metal parts with a screw on each side.

## TECHNICAL CHARACTERISTICS

The V-shaped generator mounts render it possible to make installations which are more elastic than the ones usually made with cylindrical or bobbing mounts. This makes it possible to achieve lower frequency and consequently better vibration isolation.

Stability is enhanced when two are installed, symmetrically opposed. See fig. 1.

They have two different length screws which facilitate the assembly of the the engine to the chassis.

They have two "anti-turn" tabs which stop the mount from turning when strong tightening torque is applied (very frequently) with pneumatic tools.

They are supplied in 2 hardnesses to adapt to different load ranges.

They provide vibration attenuation of above 90% in diesel or petrol single-cylinder engines running at 3000 rpm.

## APPLICATIONS

Very low-load engines requiring high levels of isolation. Portable gen sets, compressors, motor pumps...

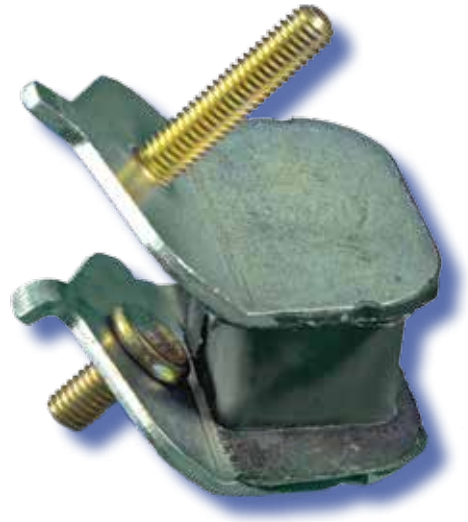
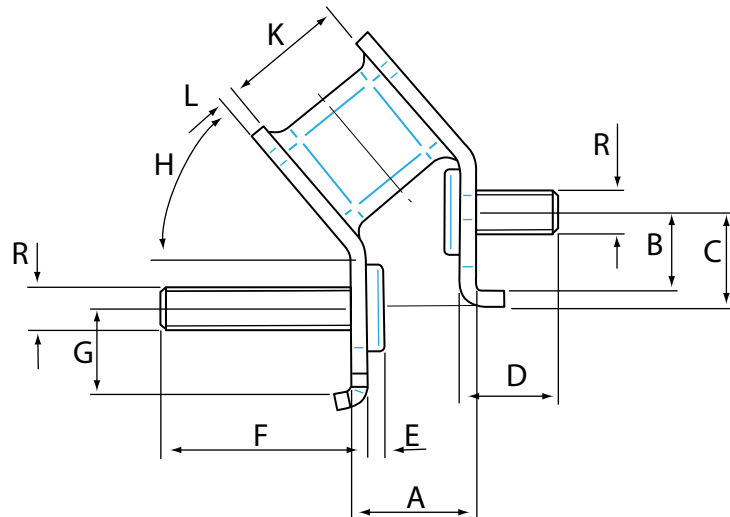
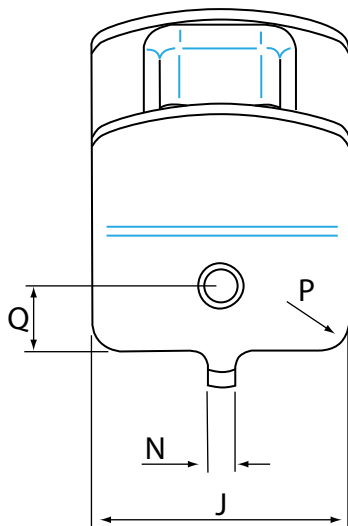
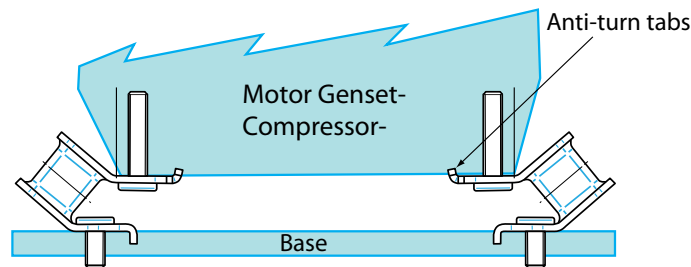


Fig 1



Part No	Duro	A	B	C	D	E	F	G	H	J	K	L	N	R	P	Q	Load Kg	Static Deflection mm	Weight Kg
M148151	45	23	14.5	18	18	3	38	15.9	50 <sup>0</sup>	47	23	3	5	M8	5	11	5	5	0.1
M148153	60	23	14.5	18	18	3	38	15.9	50 <sup>0</sup>	47	23	3	5	M8	5	11	15	5	0.1
M148171	45	28	19.5	23	18	3	38	20	50 <sup>0</sup>	54	31	3	7	M8	10	16	43	9	0.2
M148173	60	28	19.5	23	18	3	38	20	50 <sup>0</sup>	54	31	3	7	M8	10	16	90	9	0.2



## V-Shaped Marine

### DESCRIPTION

The V-shaped marine mount works the elastomer at shear compression. It is comprised of 2 metal parts which permit its installation by means of a screw at the top and two holes for securing it to the chassis.

### TECHNICAL CHARACTERISTICS

The V-shaped marine mount has a V-shaped architecture to provide major deflection at low loads. This means that the natural frequency is low and ideal for engines which normally work ticking over.

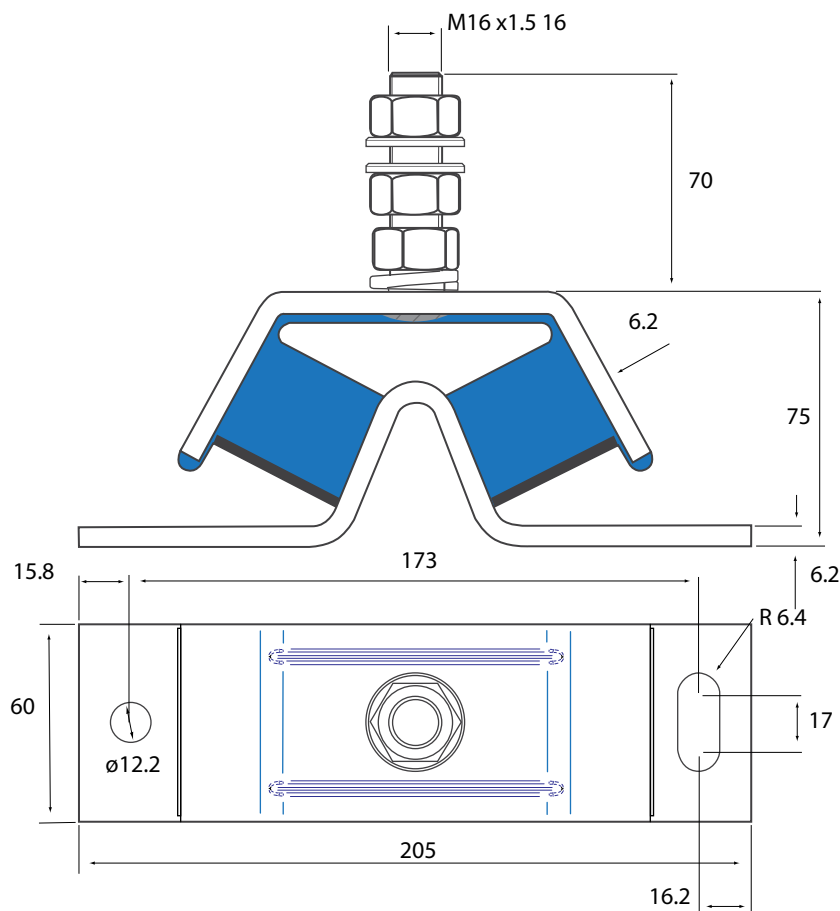
It has three different stiffnesses per axis X,Y,Z to be able to adjust the modes of the suspended unit to obtain an optimal isolation.



### DESCRIPTION

It is used in applications where the load of the suspended unit is low and the level of vibration isolation is high, such as:

Small vehicle or machines, small and medium-sized gen sets, marine engines...



Part No	Duro	Load Kg	Static Deflection mm	Weight Kg
M148001	40	40	6	1.7
M148003	50	75	6	1.7
M148004	60	100	6	1.7
M148006	70	150	5	1.7

These special isolators were developed to meet almost every type of machinery installation within the loading range, with telescopic metal inserts providing considerable stability in all directions. The two light duty isolators, M110 and M114 are equipped with upper metal inserts, tapped to receive standard bolts or set screws. The isolators can be fastened to the floor or other base, with bolts through the two lugs of the lower metal stamping. When using the heavy duty isolators M139 and M140, loads can be suspended as well as supported.

Interlocking flanges incorporated in M139 and M140 isolators ensure suspension even if the rubber is completely destroyed by fire, etc.

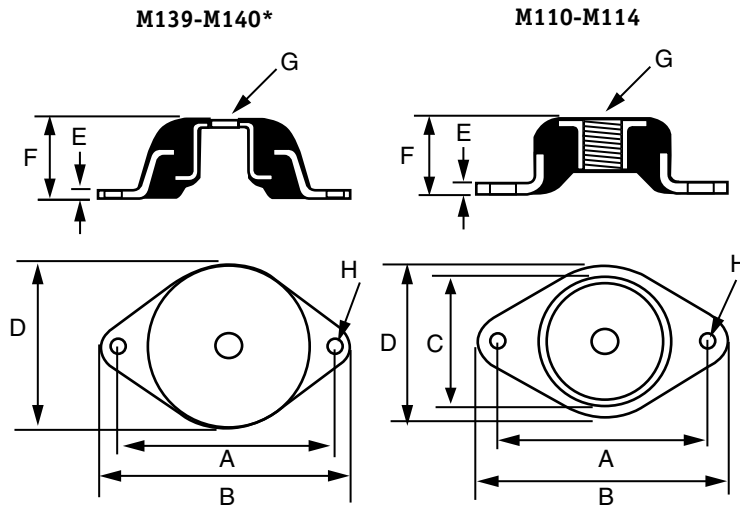


M139-M140\*



M110-M114

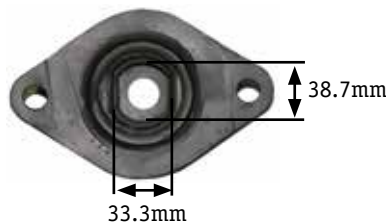
**\* ALSO AVAILABLE IN STAINLESS STEEL**  
M13960SS (type 316), M14060SS (type 304)



PART No.	A	B	C	D	E	F	G	H	WEIGHT Kg
M110	60.3	76	41	48	3	22	7/16"-20UNF	8.7	0.1
M114	76.1	92	57	60	3	29	1/2"-20UNF	8.7	0.2
M140	110.0	141	--	83	3	41	17/32"	13.5	0.4
M139	127.0	157	--	102	3	48	13/16"	14.2	0.6

## Bolt Head Recess Details

M139



3/4" Whit A/F=32mm

M140



Hex (19.2mm) A/F

Part Nos. M114 and M140 are available with a shield (Part No. M189) to protect the isolators from mechanical and chemical attack. Order if required. M189 = 0.06Kg

## COLOUR CODE

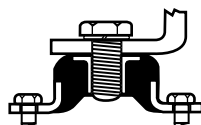
DURO	COLOUR
40	Red
50	Yellow
60	White
70	Marked 70

## Suggested Methods of Mounting

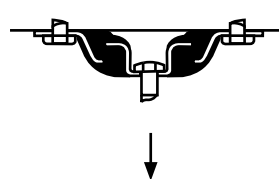
Tandem Series



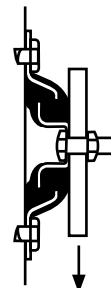
Compression Series



Tension



Shear



# Flange Isolators

To assist the isolation system designer we have provided the approximate deflections of Mackay isolators at various static loadings. It therefore becomes a simple matter to obtain the isolation efficiency by referring to the Mackay graph on "disturbing frequencies/deflections" (Shown in our current Flexible Isolator Catalogue). If you require any further technical data on Mackay isolators, please contact the Mackay Technical Department.

## Load / Deflection Chart

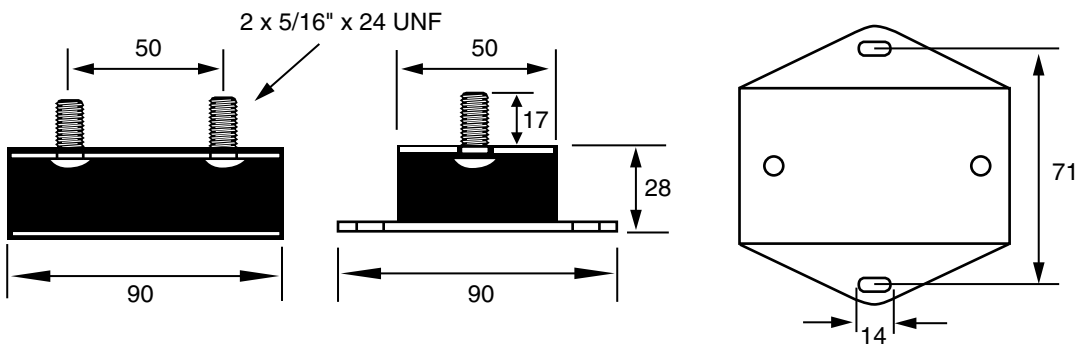
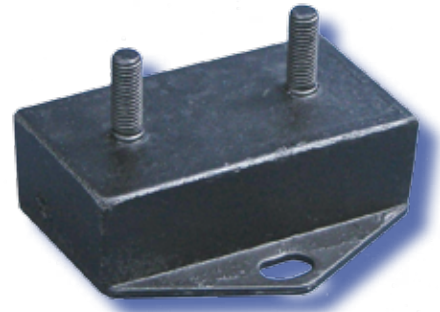
Part Number	Compression		Shear		Part Number	Compression		Shear	
	Load Kg	DEF mm	Load Kg	DEF mm		Load Kg	DEF mm	Load Kg	DEF mm
<b>M11040</b>	25	2.3	20	2.2	<b>M13960</b>	725	3.6	400	3.4
	30	2.8	25	2.7		750	3.7	425	3.6
	35	3.2	30	3.3		775	3.8	450	3.8
	40	3.7	35	3.8		800	3.9	475	4.0
<b>M11050</b>	40	2.5	35	2.5		825	4.1	500	4.2
	45	2.8	40	2.8		850	4.2	525	4.4
	50	3.2	45	3.2		875	4.3	550	4.6
	55	3.5	50	3.5		900	4.4		
<b>M11060</b>	31	1.0	21	1.0	<b>M13970</b>	1100	3.5	550	3.1
	60	2.0	54	2.0		1125	3.6	575	3.3
	85	3.0				1150	3.7	600	3.5
						1175	3.8	625	3.7
<b>M11440</b>	40	2.4	25	2.3		1200	3.9	650	4.0
	45	2.7	30	2.8		1225	4.0	675	4.2
	50	3.0	35	3.2		1250	4.1	700	4.4
	55	3.3	40	3.7		1275	4.2	725	4.5
<b>M11450</b>	60	3.6			<b>M14040</b>	200	3.3	100	3.3
						210	3.5	110	3.7
	60	2.4	40	2.4		220	3.7	120	4.0
	65	2.6	45	2.7		230	3.9	130	4.3
	70	2.8	50	3.0		240	4.0	140	4.7
	75	3.0	55	3.3		250	4.2		
	80	3.2	60	3.6		260	4.3		
	85	3.4				270	4.5		
						280	4.7		
					<b>M14050</b>	280	3.6	120	3.2
						290	3.7	130	3.5
						300	3.8	140	3.7
						310	3.9	150	4.0
<b>M11460</b>	90	2.4	60	2.6		320	4.1	160	4.3
	95	2.6	65	2.8		330	4.2	170	4.5
	100	2.7	70	3.0		340	4.3	180	4.8
	105	2.8	75	3.2		350	4.4		
	110	3.0	80	3.4	<b>M14060</b>	350	3.3	160	3.6
	115	3.1				375	3.5	170	3.8
	120	3.2				400	3.8	180	4.0
	125	3.4				425	4.0	190	4.2
	130	3.5				450	4.2	200	4.4
						475	4.5		
						500	4.7		
<b>M13940</b>	400	3.4	150	3.0	<b>M14080</b>	650	3.4	200	3.3
	425	3.6	175	3.5		675	3.5	210	3.5
	450	3.8	200	4.0		700	3.7	220	3.7
	475	4.0	225	4.5		725	3.8	230	3.8
	500	4.2	250	5.0		750	3.9	240	4.0
	525	4.4				775	4.1	250	4.2
	550	4.6				800	4.2	260	4.3
						825	4.3	270	4.5
<b>M13950</b>	550	3.5	250	3.1		850	4.5	280	4.7
	575	3.6	275	3.4		880	4.6		
	600	3.8	300	3.7					
	625	3.9	325	4.0					
	650	4.1	350	4.3					
	675	4.2	375	4.6					
	700	4.4	400	4.9					
	725	4.5							

These isolators have been engineered to meet various vibratory problems found within industry and are easily applied to a variety of applications.

**FEATURES :**

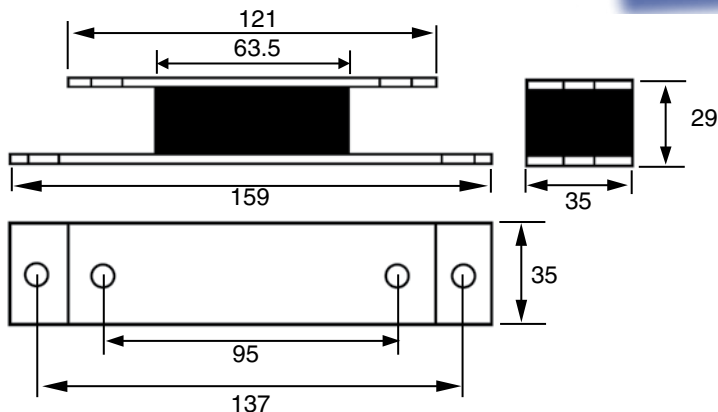
- All angle flexibility.
- Maximum durability.
- Ease of selection.
- Ease of installation.
- Designed for stability.
- Increased service life on equipment.

## M181

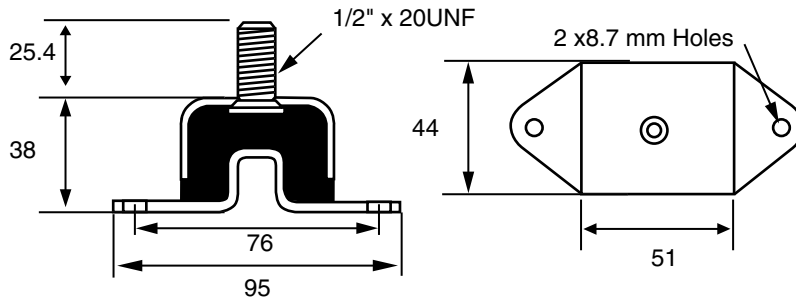


**Load Rating at 3mm Deflection Compression 230 Kg Shear 30Kg**

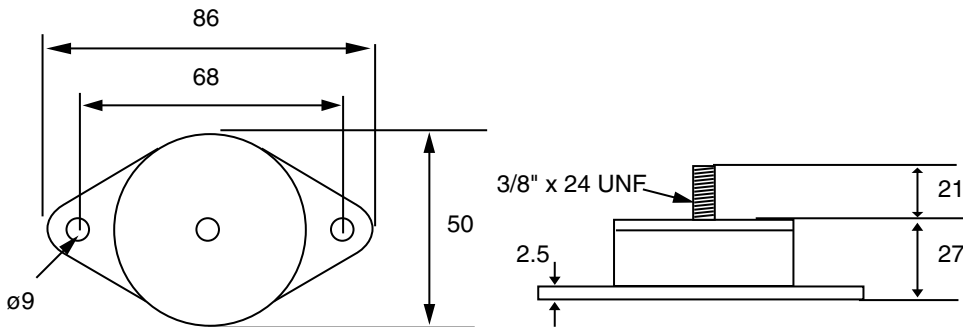
## M183



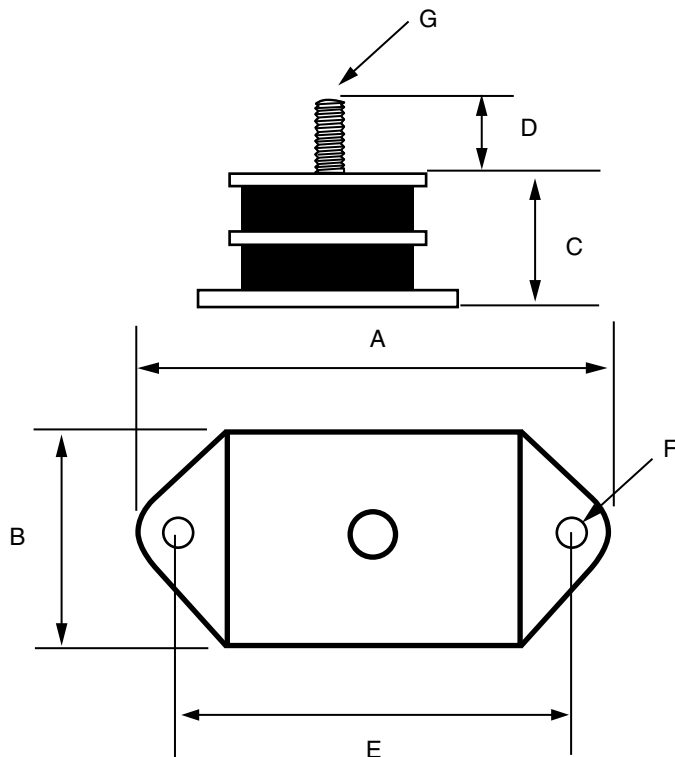
## M184



## M21345



PART No.	COMPRESSION		SHEAR		WEIGHT
	LOAD Kg	DEF mm	LOAD Kg	DEF mm	
<b>M179</b>	20	1.4	5	1.7	0.1
	30	2.1	6	2.0	
	40	2.8	7	2.3	
	43	3.0	8	2.7	
<b>M181</b>			9	3.0	0.3
	125	1.6	15	1.5	
	150	1.9	20	2.0	
	175	2.3	25	2.5	
	200	2.6	30	3.0	
<b>M183</b>	230	3.0			0.3
	50	1.4	5	1.1	
	75	2.0	10	2.3	
	100	2.7	13	3.0	
<b>M184</b>	110	3.0			0.3
	200	1.7			
	250	2.1			
	300	2.6			
<b>M21345</b>	350	3.0			0.2
	26	1.0	5	1.0	
	56	2.0	11	2.0	
	85	3.0	15.5	3.0	
			20.4	4.0	

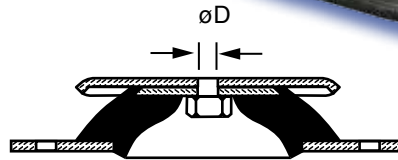
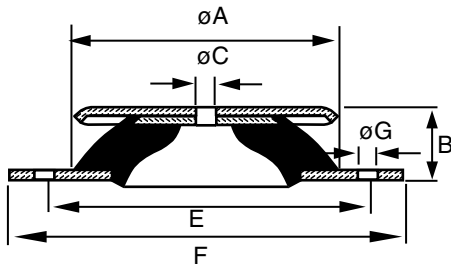


PART NO	A	B	C	D	E	F	G	LOAD in Kg		DEF in mm		DURO	WEIGHT Kg
								COMP	SHEAR	COMP	SHEAR		
M8040645	94	41	36	15	74.5	8.5	5/16" UNF	35-95	14-43	1.0-2.8	5.0-15.0	45	0.2
M8040660	94	41	36	15	74.5	8.5	5/16" UNF	65-175	27-70	1.0-2.8	5.0-12.0	60	0.2
M8040670	94	41	36	15	74.5	8.5	5/16" UNF	95-275	42-120	1.0-2.8	5.0-14.0	70	0.2

## Colour Code:

Duro	Colour
45	Red
60	White
70	Marked 70

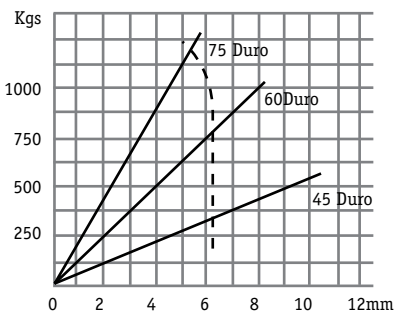
The "Beca" isolator is flexible both horizontally and vertically. It is particularly suitable for machines producing horizontal vibration forces. The horizontal deflections are approximately the same as the vertical deflections. The isolator is effective against all vibrations, irrespective of the direction in which they act.



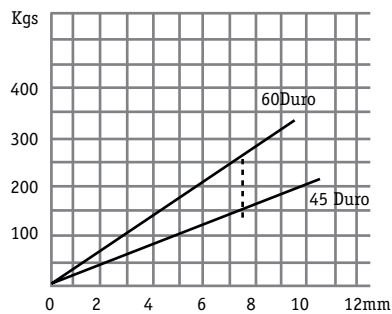
PART NO.	DIMENSIONS							WEIGHT Kg
	A	B	C	D	E	F	G	
M533641*	40	20	.	M6	52	64	6.2	0.05
M533661*	60	24	.	M6	76	90	6.2	0.2
M533581	80	27	8.1	-	100	120	8.2	0.3
M533109	100	28	10	-	124	148	10.2	0.5
M533152	150	39	14	-	182	214	12.2	1.4
M533203	200	44	18	-	240	280	14.5	3.1

\*Supplied with Threaded Fixing Hole

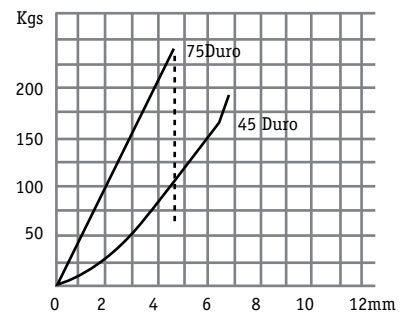
M533203



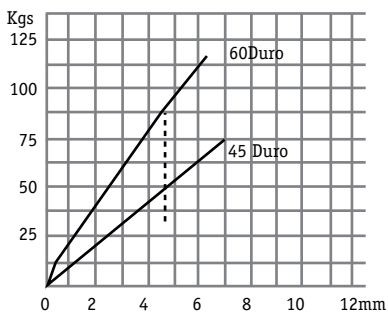
M533152



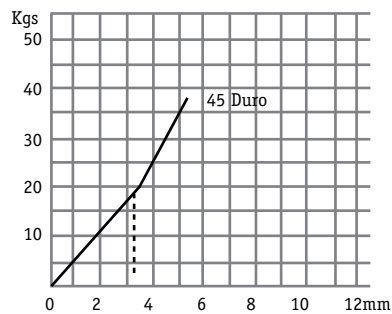
M533109



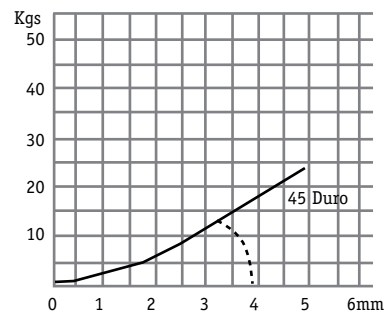
M533581



M533661



M533641



PART No.	LOAD kgs	DEFLECTION mm	DURO
M53364145	5	3	45
M53366145	15	3	45
M53358145	40	4	45
M53310945	60	3	45
M53358160	80	4	60
M53315245	120	7	45
M53310975	180	3	75
M53315260	240	7	60
M53320345	400	6	45
M53320360	700	6	60
M53320375	1000	5	75

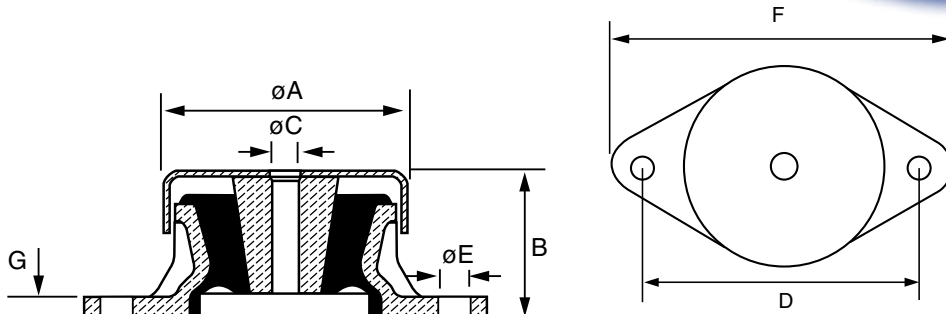
COLOUR CODE

DURO	COLOUR
45	Grey
60	Green
75	Red



The STABIFLEX flexible isolator offers a metal protection shield for the rubber in applications where this is considered necessary.

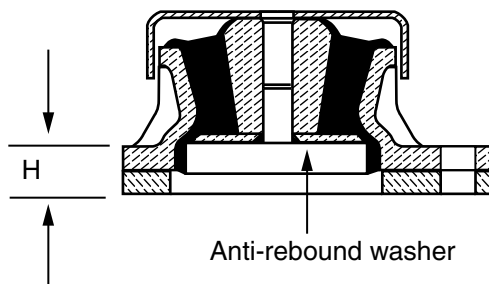
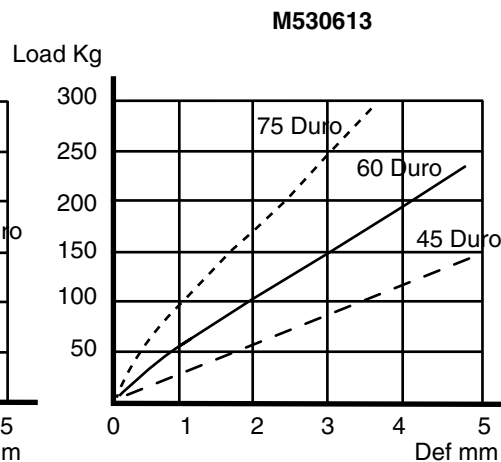
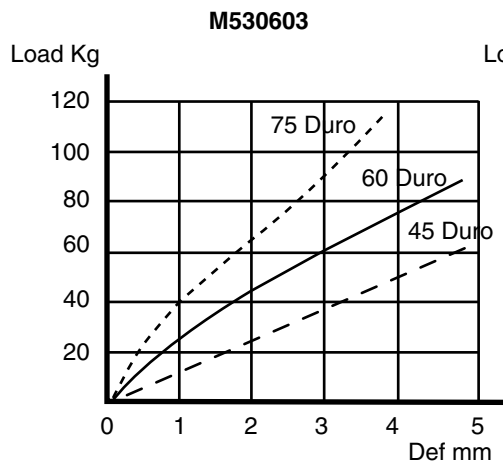
The STABIFLEX isolators provide excellent isolation in both compression and shear loadings and are suitable in applications where isolation in the horizontal plane as well as the vertical plane is required.



Part No	A	B	C	D	E	F	G	Weight Kg
M530603	69	41	M12	98	9	114	6	0.3
M530613	84	51	M12	115	11	137	7	0.5

PART No	LOADING DEFLECTION		DURO
	Kg	mm	
M53060345	42	3.5	45
M53060360	60	3.0	60
M53060375	125	4.0	75
M53061345	93	3.5	45
M53061360	165	3.5	60
M53061375	260	3.0	75

Hardness Colour Codes	
DURO	COLOUR
45	Grey
60	Green
75	Red



### Fitting with anti-rebound washer.

An anti-rebound washer must be fitted if tension forces are likely to be exerted on the isolator. (I.E. for equipment mounted on trailers, ships etc.). The washer is fitted under the inner cone to fit the shape of the outer ring. Do not forget to allow for a clearance space under the isolator according to the following table;

- M530603 H=2mm
- M530613 H=4mm

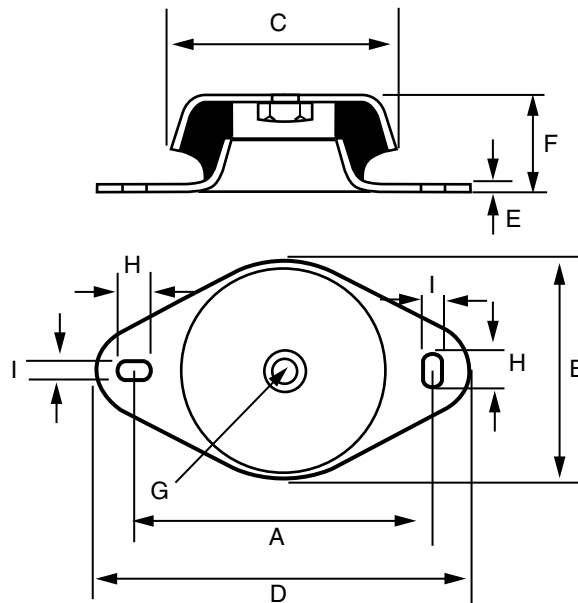
**Note:** The anti-rebound washer is not supplied by Mackay Consolidated Industries Pty Ltd

SlimLine machinery isolators offer increased protection to the rubber element in applications where it is considered necessary. The series provide excellent isolation efficiency with an equal load capacity in both compression and shear. They are suitable for all applications where restraint in horizontal movement is required but good isolation is needed in the vertical plane.

- SlimLine Two Hole Mounting
- Elongated Universal Mounting Holes
- Low Profile to Reduce Centre of Gravity
- Available in 3 Elastomer Hardnesses  
40 Duro ; 55 Duro ; 65 Duro



### M510 Slimline Series



Dimensions										WEIGHT Kg
PART No.	A	B	C	D	E	F	G	H	I	
<b>M510103965</b>										
40-55-65	96	76	72	122	2	33	M10	15	9	0.3

### Load Rating Chart

PART No.	COMPRESSION OR SHEAR	
	LOAD	DEFLECTION
	Kg	mm
<b>M51010396540</b>	50	1.39
	100	2.67
	150	3.72
	200	4.71
<b>M51010396555</b>	50	0.94
	100	1.71
	150	2.52
	200	3.23
<b>M51010396565</b>	250	4.04
	50	0.50
	100	1.00
	150	1.50
	200	2.00
	250	2.50
	300	3.00

\*Duro rating stamped on Base

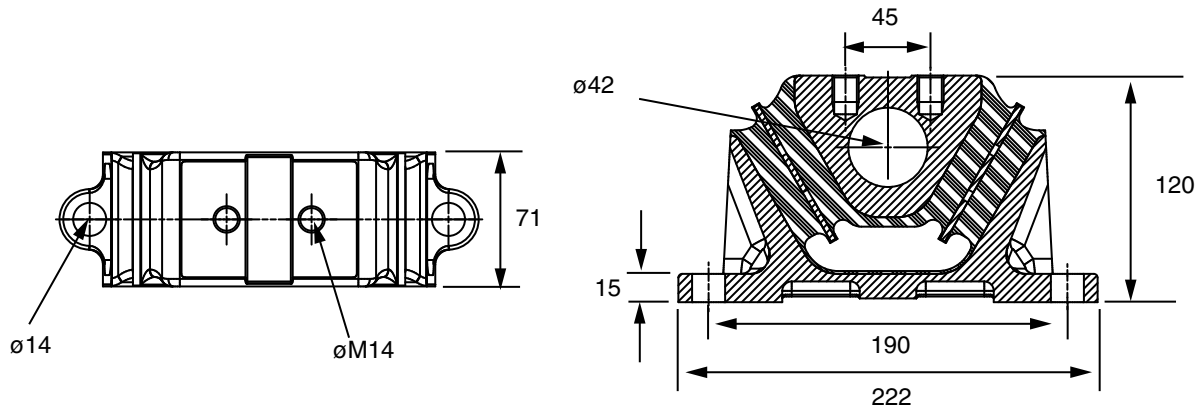
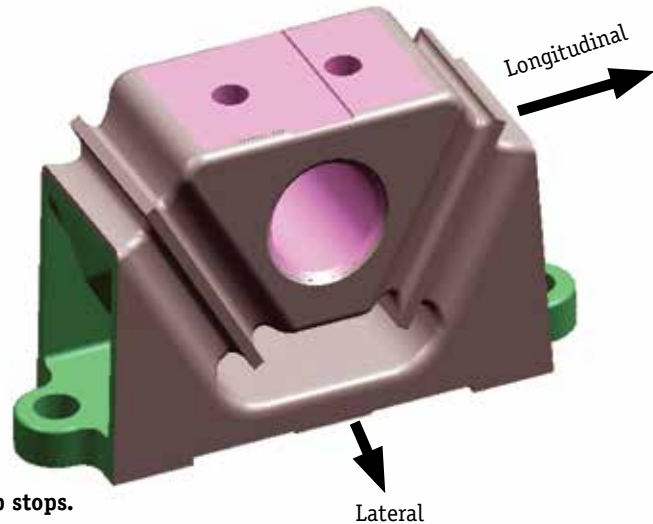
## Engine /Transmission rafts

Vee- mountings provide high load capacity with relatively high deflections, providing a high degree of vibration isolation. Typically used with the long axis in the direction of travel, the load can be connected using sole bars through the central hole or bolting to the inner vee- block. All metal work is cast steel to cater for the high load capacity.

Vee-Mountings are commonly used in suspended engine and transmission rafts in rail. Additional applications in engine rafts for underground mining equipment have also been successful.

engine rafts are typically movement limited for shock loads beyond the maximum deflection of the Vee- Mountings.

**Lateral movement should be limited to 10mm with bump stops.**



Part No	Vertical Max Load Kg	Vertical Max Deflection mm	Weight Kg
M80103350	590	7	4.5
M80103360	920	7	4.5
M80103370	1300	7	4.5



# Section 4

## Flanged Isolators safety interlocked



Note The products featured in this catalogue are supplied by Mackay Consolidated Industries Pty Ltd to suit the vehicle models indicated .

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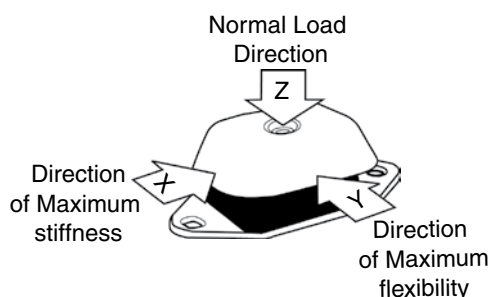
## SUITABLE FOR MARINE APPLICATIONS

Isomounts are general purpose vibration isolators suitable for mobile and static equipment installations.

Available in three different sizes Isomounts have a mechanically galvanized base and come with a choice of rubber hardnesses, they can also be supplied with two types of specialist height adjusters and a mechanically galvanised base.

Load Range.

Isomount isolators are suitable for operation under all types of engines. They offer 3-way control of engine movement with excellent isolation efficiency. Maximum use of this 3-way control when the isomount isolators are used as engine supports can be obtained by arranging the isolator with their maximum flexibility (Y) at right angles to the engine crankshaft and maximum stiffness (X) in line with the crankshaft. Using the isolators in this manner also has the advantage in marine applications of providing isolation against propeller thrust. The Isomount range also features bump and rebound control which prevents excessive movement under shock loads.



### NOMINAL STIFFNESS RATIOS

X = 2.5  
Y = 0.75  
Z = 1.0

The static load figures shown in FIG 1. are offered as a reference to the maximum load acceptable for each rubber mix.

**Fig 1 Load Range**

TYPE 1	Part No TYPE 2	TYPE 3	Maximum Load Without Thrust Kg	Maximum Load With Thrust Kg	Deflection mm	Duro
M200045	M200145	M200245	50	35	4	45
M200055	M200155	M200255	70	55	4	55
M200065	M200165	M200265	100	80	4	65
M220045	M220145	M220245	135	85	5	45
M220055	M220155	M220255	200	135	5	55
M220065	M220165	M220265	300	210	5	65
M220075	M220175	M220275	450	315	5	75
M240045	M240145	M240245	355	250	5	45
M240055	M240155	M240255	530	370	5	55
M240065	M240165	M240265	800	560	5	65
M240075	M240175	M240275	1000	700	5	75

**Note :** When used in marine engine applications with thrust forces, the maximum load capacity is substantially reduced. See table above

## Height Adjusters

Two styles of height adjusters are available for each Isomount Isolator.

### Type '1'

is supplied minus height adjuster.

### Type '2'

Is a general purpose adjuster suitable for static applications.

### Type '3'

Is available for mobile applications, where thrust is an issue.

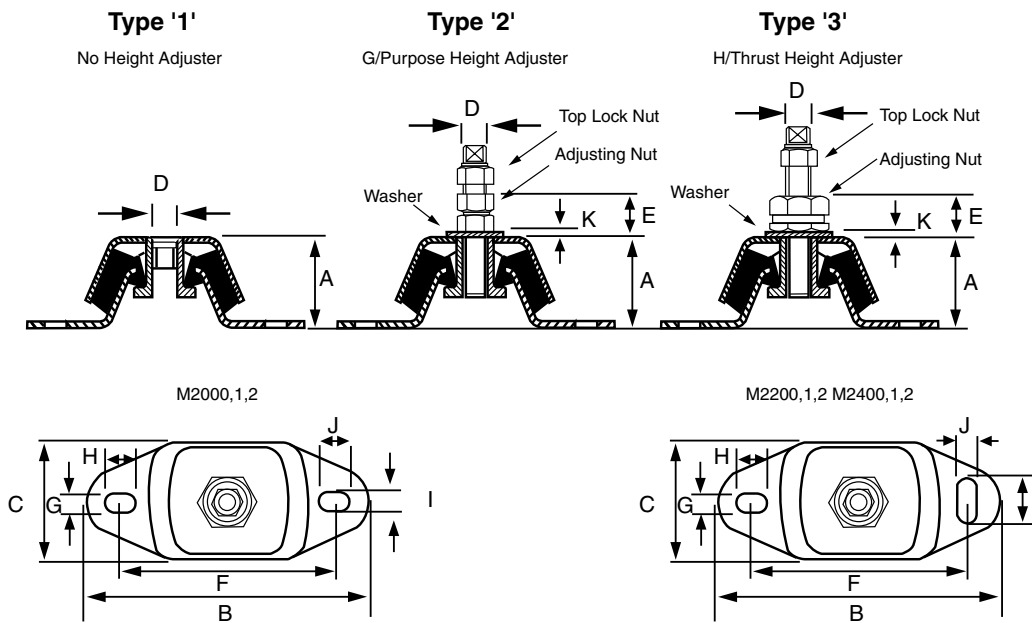
**Height adjusters are recommended where precise alignment is required and care should be taken when height adjusters are used not to allow excessive bending forces to be imposed on the centre spindle.**

In the past fitment of inappropriate height adjusters has resulted in premature failure of the isolator by damage to the centre spindle.

Both types of height adjusters are available separately for each size Isomount, under the part numbers shown in Fig2.

**Fig2**

HEIGHT ADJUSTER				
ISOMOUNT	Part No	Weight Kg	H/Thrust	Weight Kg
PART No	G/Purpose			
M2000	M2000A	0.13	M2000B	0.3
M2200	M2200A	0.3	M2200B	0.5
M2400	M2400A	0.5	M2400B	0.7

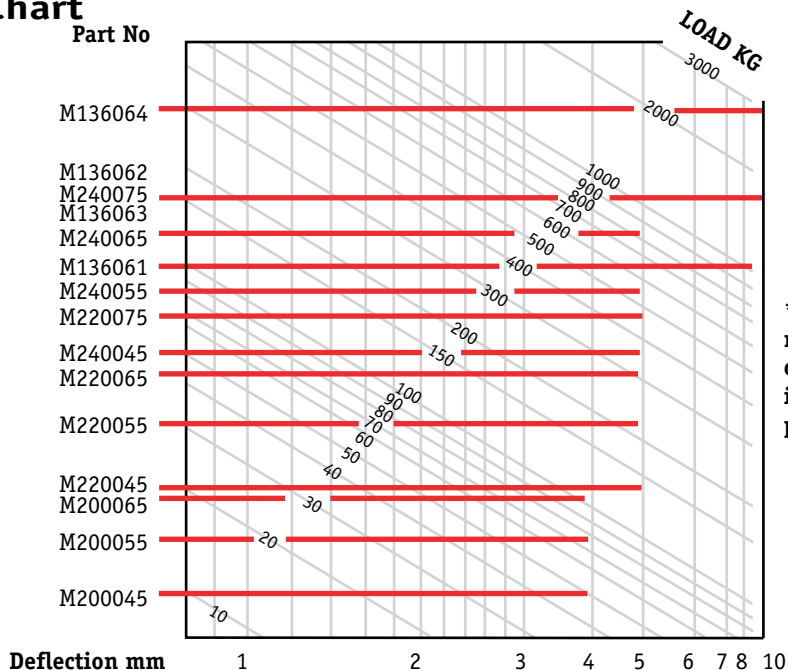


**Fig3**

Part No	Type	A	B	C	D	E		F	G	H	I	J	K	Weight kgs
						Max	Min							
M2000	1	38.5	120	60	M12	-	-	100	14	11	14	11	-	0.4
M2001	2	38.5	120	60	M12	32	22	100	14	11	14	11	3	0.5
M2002	3	38.5	120	60	M12	40	30	100	14	11	14	11	3	0.6
M2200	1	50.0	183	75	M16	-	-	140	13	20	30	13	-	0.9
M2201	2	50.0	183	75	M16	38	28	140	13	20	30	13	4	1.2
M2202	3	50.0	183	75	M16	41	31	140	13	20	30	13	4	1.4
M2400	1	68.0	228	112	M20	-	-	182	18	26	34	18	-	2.2
M2401	2	68.0	228	112	M20	44	34	182	18	26	34	18	4	2.8
M2402	3	68.0	228	112	M20	41	31	182	18	26	34	18	4	2.9



## Selection Chart



\* Isomount isolators do not have a Duro colour coding, the Duro rating is stamped on the base plate.

## INSTALLATION INSTRUCTIONS

It is important that isolators of the correct size (weight carrying capacity) and rubber hardness are selected to suit the application. Details on load range and static deflections are shown in figure 1

## INSTALLATION WITHOUT HEIGHT ADJUSTER

Ensure tightening torque values for the centre bolt fixing are followed as shown in figure 4.

Check that after tightening of the centre bolt fixing that there is not excessive distortion, misalignment and rotation of the top cap relative to the base.

Where alignment of the equipment is required packing pieces or shims should be employed either below the mounting base plate or above the isolator top cap. Alignment should be rechecked after centre fixing bolts have been tightened.

Fig 4

RECOMMENDED CENTRE BOLT/NUT TIGHTENING TORQUE Nm		
Part No	Type	
M2000	1	45-50
M2001	2	45-50
M2002	3	45-50
M2200	1	100-110
M2201	2	100-110
M2202	3	100-110
M2400	1	150-170
M2401	2	150-170
M2402	3	150-170

## INSTALLATION WITH HEIGHT ADJUSTER

When accurate alignment of equipment is required one of two types of adjusters (Type '2' or '3') should be employed.

Ensure that excessive bending forces are not imposed on the centre spindle.

When using height adjusters, ensure that the recommended washer is placed hard against the top cap and the height adjusting spindle is fully located into the isolator.

If height adjusters are insufficient to achieve desired height adjustment shims or packing pieces should be employed under the mounting base.

The isolators with the height adjusters in the mean position (dimension Fig3) should be fitted to the equipment which should then be lowered onto the support. Vertical and horizontal alignment should now be effected using the height adjuster and slotted holes in the mounting base. After tightening centre fixings to the values shown in fig 4 recheck alignment. If necessary coupling and shaft alignment should be undertaken in accordance with the coupling manufactures recommendations. Where possible coupling alignment procedures should be carried out after the power unit has settled on the mountings (preferably 2 days after installation). Should this action not be possible the power unit should be raised approximately 1mm after completion of the alignment procedure.



## DESCRIPTION

The Marine-type IsomountHD mounts are ideal for mobile applications thanks to their rugged architecture.

Their special design offers different stiffnesses on the three axes, they are antivibration mounts with great vertical elasticity, great longitudinal stiffness and optimal lateral stiffness to offer extra isolation on this axis.

*Replaces Cushyfloat*



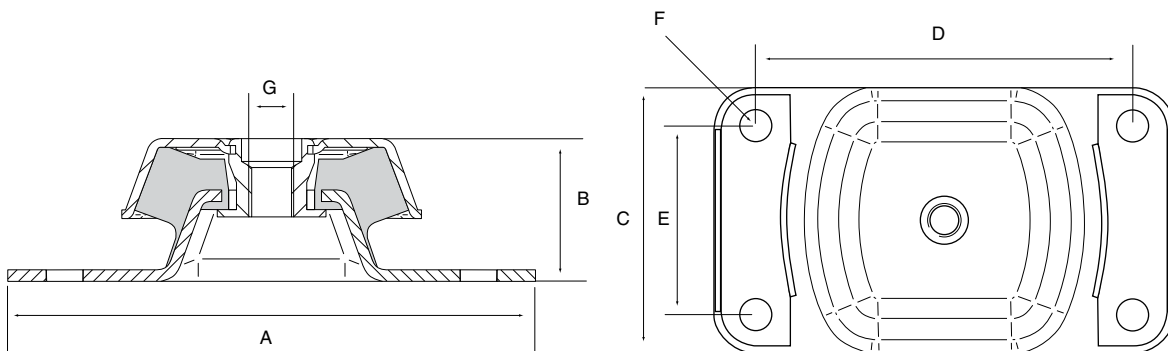
## TECHNICAL CHARACTERISTICS

- The top part of the hood has a cross-shaped stamp, which improves its stiffness in mobile applications and also improves the evacuation of oils or liquid which splash onto it.
- The metal parts have an anticorrosive treatment which is suitable for outdoor applications.
- The mounts are clearly identified, as the bases are engraved with the type and hardness.
- They have an interlocking metal component that provides a fail-safe protection for mobile applications. This device limits the ascending vertical movement when the mounting is submitted to shocks at traction.
- The top part protects the elastomer inside from possible dripping oil, diesel, ozone and ultraviolet emissions that may cause major damage to the rubber.
- For marine engine applications, contact the Mackay Consolidated Industries technical department.
- The different stiffnesses for each axis make it possible to offer major flexibility in the direction perpendicular to the crankshaft/shaft of the motor. This provides more effective isolation from vibrations of all types of engines.

## APPLICATIONS

In mobile rotating machines that need a major isolation capacity from vibrations and noises, such as:

- Pumps
- Marine-Land units
- Mobile electrical panels
- Industrial vehicles
- Compressors
- Ventilators
- Marine Propellers



Part No	A	B	C	D	E	F	G	Duro	Load Kg	Static Deflection mm	Weight Kg
<b>M136061</b>	330	112	190	270	135	22	M24	40	890	9.6	9.6
<b>M136062</b>	330	112	190	270	135	22	M24	50	1400	9.6	9.6
<b>M136063</b>	330	112	190	270	135	22	M24	60	2225	10.0	9.6
<b>M136064</b>	330	112	190	270	135	22	M24	70	3000	10.0	9.6

## DESCRIPTION

The advantage of this mount is that it is a high-damping elastic compound. Its special mix affords it a high degree of anti vibration isolation and offers great stability to suspended equipment.

## TECHNICAL CHARACTERISTICS

- Metal hood that protects the part from possible oil splashes.
- It has an electrolytic coating that protects the part from corrosion.
- They have an interlocking metal component that provides a fail-safe protection for mobile applications. This device limits the ascending vertical movement when the mounting is submitted to shocks at traction.

*Replaces RAB isolators*



## APPLICATIONS

This mount has been specially designed to insulate engines that produce high-amplitude vibrations. Engines from 1 to 3 cylinders, Motor Pumps, Gensets, Compressors, Ventilators

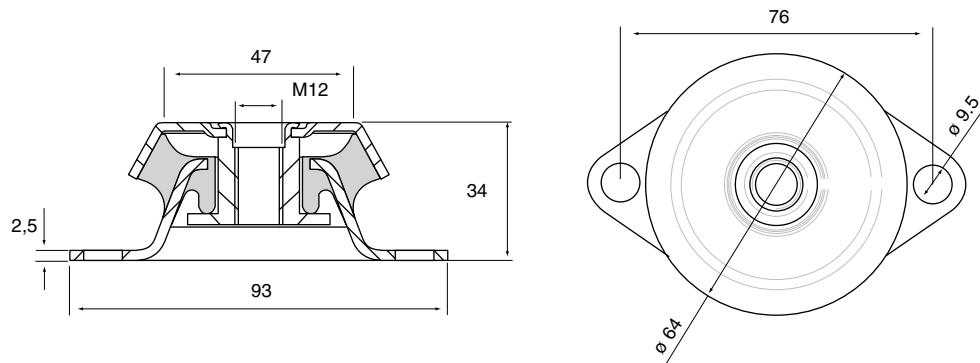
## WHEN IS IT USED?

The MD-type works as an anti vibration mount but also as an engine stabiliser. This mount is used when conventional rubber metal mounts do not offer sufficient stability to the suspended equipment.

The MD is installed in small engines of 1, 2 and 3 cylinders which are particularly unstable.

These mounts are suitable for the suspension of machines which are started and stopped a lot and where the passage of resonance needs a high degree of damping or work in conditions which are close to the frequency of resonance of the system.

Diesel engines require MD mounts, particularly when they have few large-diameter cylinders, which makes the engine create high-amplitude vibrations, therefore requiring extra damping to correct these high amplitudes.



Part No	Load Kg	Deflection mm	Weight Kg
M135210	130	3.5	0.23
M135212	105	3.5	0.23
M135213	70	3.5	0.23
M135219	50	3.0	0.23

**Replaces RAEM Isolators****DESCRIPTION**

The BRB type mounts are anti vibration elements which work the rubber in shear and compression. Their tall height profiles produce large deflections, low natural frequencies, and excellent vibration isolation results. This range of mounts is suitable for applications where high vibration isolation in the 85-95% range is a priority.

**TECHNICAL CHARACTERISTICS**

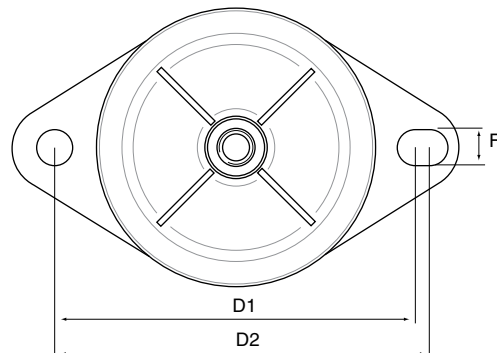
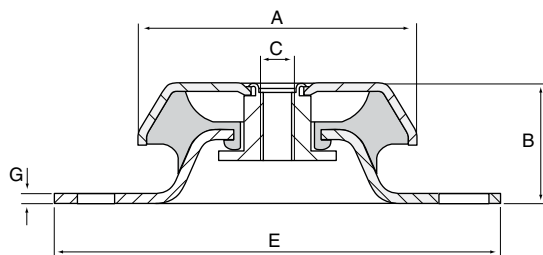
- The top metal hood protects the rubber from the Ozone, UV rays, diesel or oils which damage the rubber.
- The metal parts have a suitable anticorrosive treatment for outdoor applications.
- They have an interlocking metal component that provides

a fail-safe protection for mobile applications. This device limits the ascending vertical movement when the mounting is submitted to shocks at traction.

- The mounts are clearly identified, as the bases are engraved with the type and hardness, which makes it possible to easily recognise the piece even after several years of use.
- The hood has a cross stamped on the top, which enhances its rigidity on mobile applications and also improves the evacuation of oils or liquids that precipitate onto it.

**APPLICATIONS**

This mount is suitable for the isolation of mobile rotating machines which are exposed to axial and radial shocks, dripping, oil diesel or exposure to the weather. It is particularly interesting for applications where a high level of vibration isolation is required.



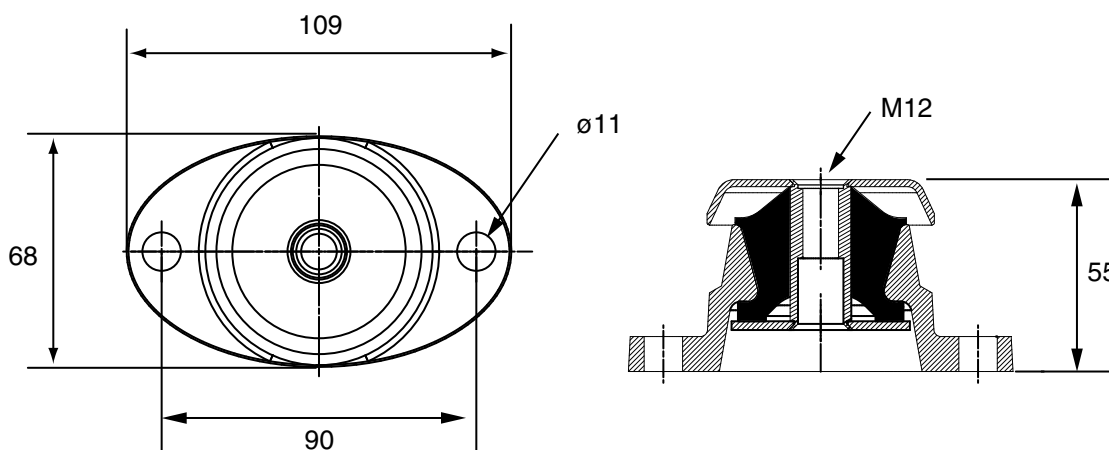
Part No	Duro	A	B	C	D1 (min)	D2 (max)	E	F	G	Load Kg	Static Deflection mm	Weight Kg
M135451	40	50	25	M8	63	70	85	6.5	2	20	4.0	0.1
M135453	50	50	25	M8	63	70	85	6.5	2	40	4.0	0.1
M135455	60	50	25	M8	63	70	85	6.5	2	60	4.0	0.1
M135251	40	65	35	M12	100	100	120	11	3	50	4.0	0.25
M135252	50	65	35	M12	100	100	120	11	3	75	4.0	0.25
M135253	60	65	35	M12	100	100	120	11	3	125	4.0	0.25
M135275	40	83	35	M12	108	110	130	11	3	80	4.0	0.39
M135276	50	83	35	M12	108	110	130	11	3	130	4.0	0.39
M135277	60	83	35	M12	108	110	130	11	3	180	4.0	0.39
M135278	70	83	35	M12	108	110	130	11	3	230	4.0	0.39
M135241	40	106	41	M12	136	150	170	12.5	3.5	200	7.0	0.85
M135242	50	106	41	M12	136	150	170	12.5	3.5	300	7.0	0.85
M135243	60	106	41	M12	136	150	170	12.5	3.5	425	7.0	0.85
M135244	70	106	41	M12	136	150	170	12.5	3.5	475	5.5	0.85
M135331	40	106	41	M16	136	150	170	12.5	3.5	200	7.0	0.85
M135332	50	106	41	M16	136	150	170	12.5	3.5	300	7.0	0.85
M135333	60	106	41	M16	136	150	170	12.5	3.5	425	7.0	0.85
M135334	70	106	41	M16	136	150	170	12.5	3.5	475	5.5	0.85

## Pedestal

The Mackay pedestal mounting combines excellent isolation characteristics with convenient installation features, making it ideal for a wide variety of common installations. It is typically employed for mounting pumps, compressors, fans, and other machinery, in static and some mobile applications.

Design features include security against excessive overload and rebound movement, a protective stainless steel cover and an attractive lightweight cast aluminium base.

Integral overload and rebound washers



Part No	Normal Load Kg	Deflection at normal Load mm	Weight Kg
M70150	90	6	0.4
M70165	180	6	0.4

\* Duro rating stamped on base

# Section 5

## Flanged Isolators Recessed Type



Note The products featured in this catalogue are supplied by Mackay Consolidated Industries Pty Ltd to suit the vehicle models indicated .

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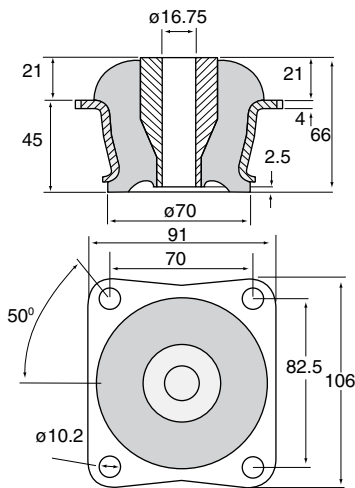
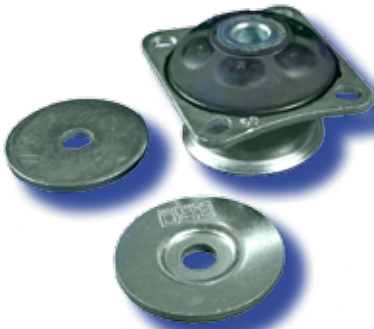
## Recessed Flange

Recessed Flange Isolators designed for high load capacity combined with relatively large static deflections in an axial direction. Their high loading for a given size is obtained by utilising the rubber to the best advantage in both compression and shear.

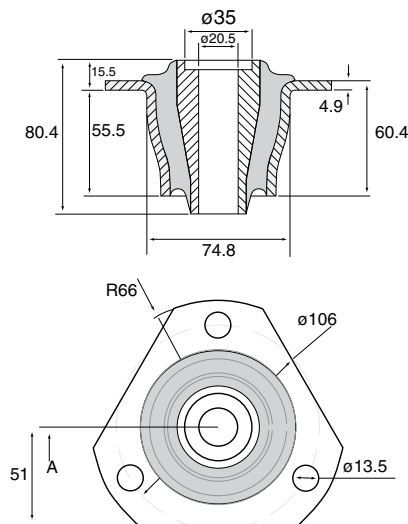
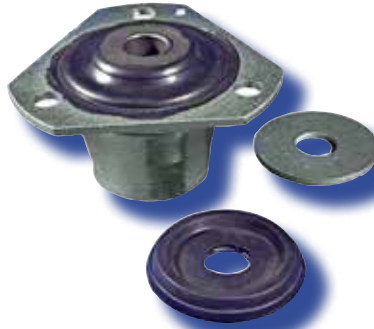
Isolators listed in the following pages are normally assembled with overload and rebound washers to control and limit the movement of the suspended equipment under the action of shock loads. The central fixing bolts should be torque tightened to the recommended values.

**Supplied with overload and rebound washers**

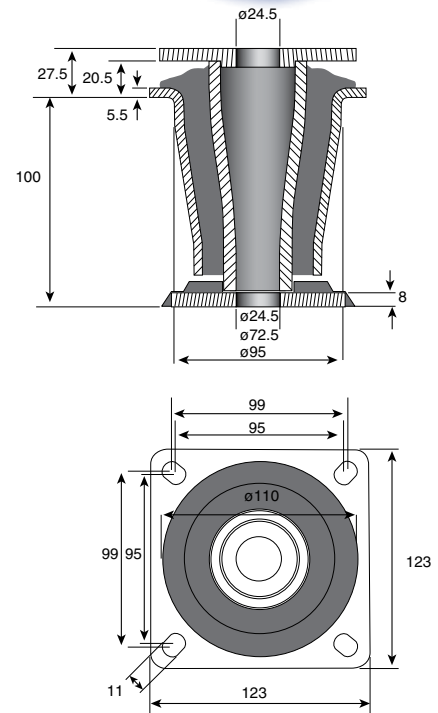
### M137061,2,3



### M137082,3



### M137101,2,3

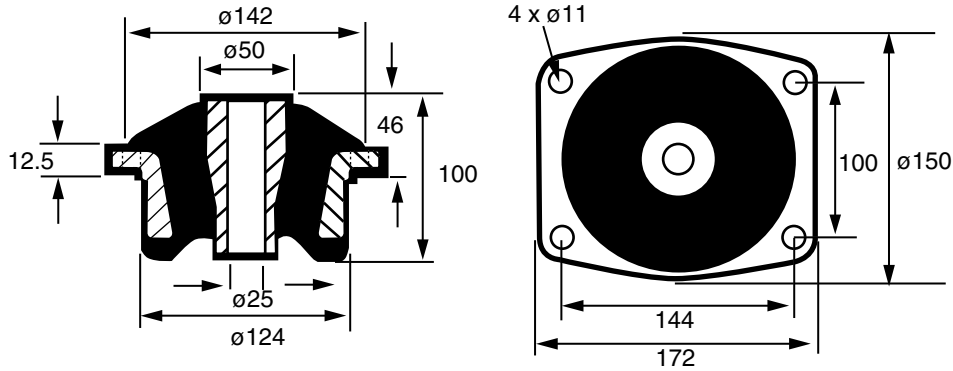


PART No	Duro	Load Kg	Deflection mm	WEIGHT Kg
M137063	50	310	6.5	1.18
M137061	60	500	6.0	1.18
M137062	70	960	6.0	1.18
M137082	60	690	6.0	1.21
M137083	70	1080	6.0	1.21
M137101	45	1000	6	3.45
M137102	60	2100	6	3.45
M137103	70	2500	6	3.45



## M801550

Overload and rebound washers ordered separately

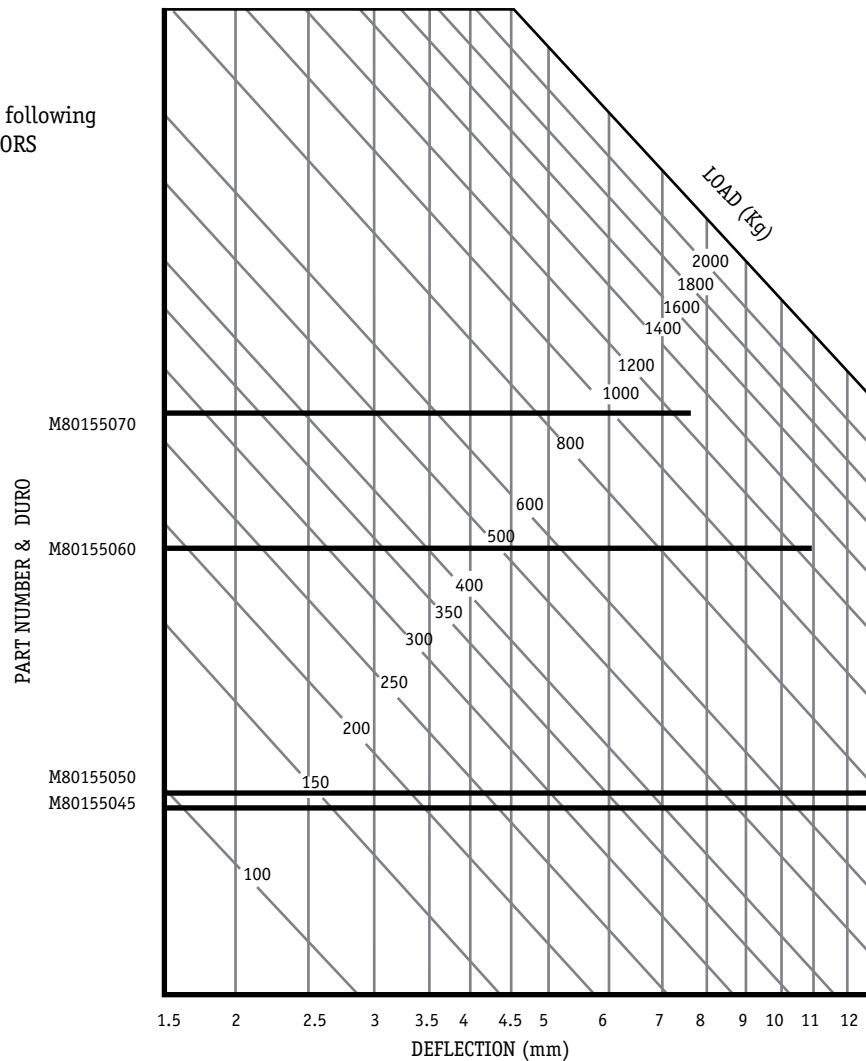


PART No.	No. OF FIXING HOLES	OVERLOAD WASHER	REBOUND WASHER	CENTRE BOLT SIZE & ASSEMBLY TORQUE	WEIGHT Kg
M801550	4	M181550C	M181550C	M24 260Nm	4.5

## Colour Code

Duro	Colour
45	Blue
50	Pink
60	White
70	Orange

**SELECTION CHART** for the following  
RECESSED FLANGE ISOLATORS  
M801550



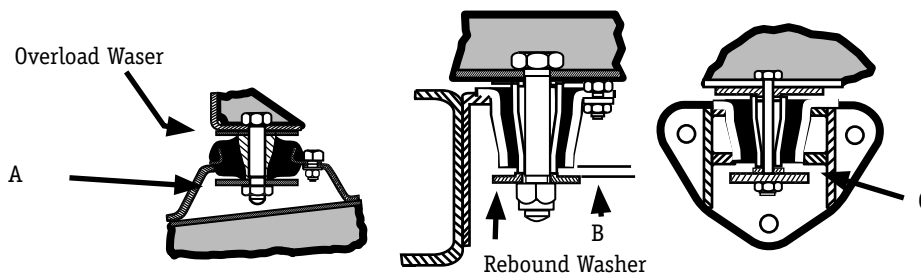
## Recessed Flange

### Typical methods of installation for Metacone Isolators

A. Note; Washer must be clear of rebound buffer in static load condition. Spacer washers should be introduced if necessary to provide adequate clearance.

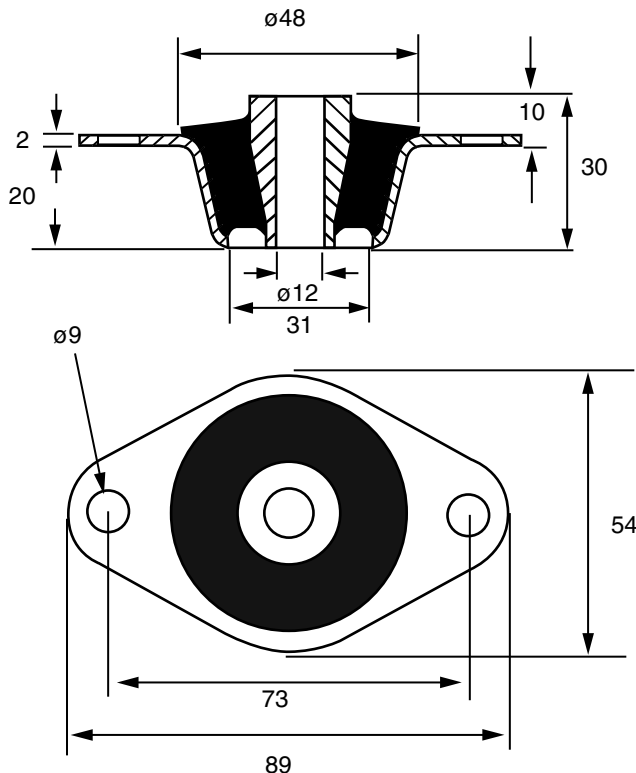
B. Ensure clearance between rebound washer and outer metal under static load

C. On Part No. M17146 it is essential that lower end of outer metal is located in bracket which also provides reaction face for rebound buffer.

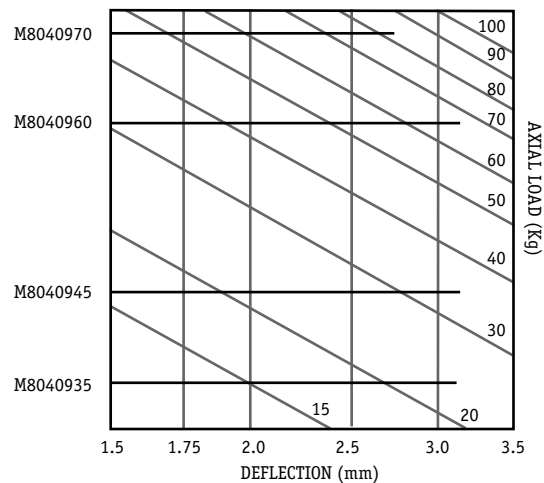


### M80409

**NOTE:** M80409 may or may not require overload and rebound washers depending on the installation. (supplied separately)



### Selection Chart



### Durometer

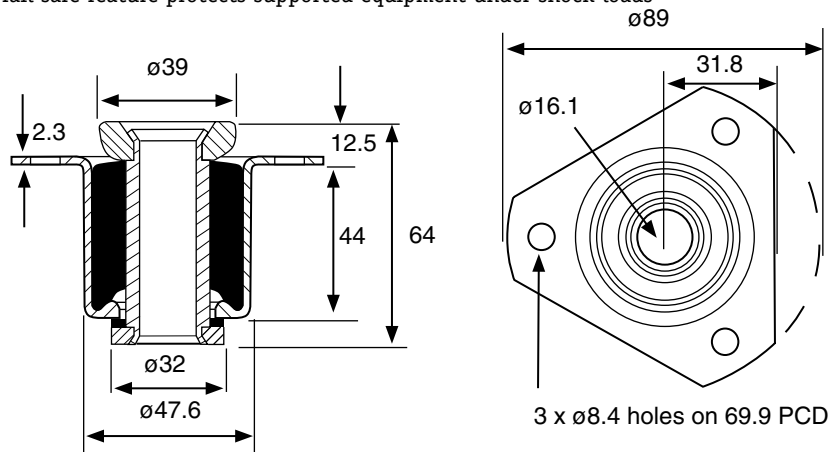
Duro	
35	Stamped
45	into
60	flange
70	

PART No.	No. OF FIXING HOLES	OVERLOAD WASHER	REBOUND WASHER	CENTRE BOLT SIZE & ASSEMBLY TORQUE	WEIGHT Kg
M80409	2	M18409A	M15286	M12 40Nm	0.1



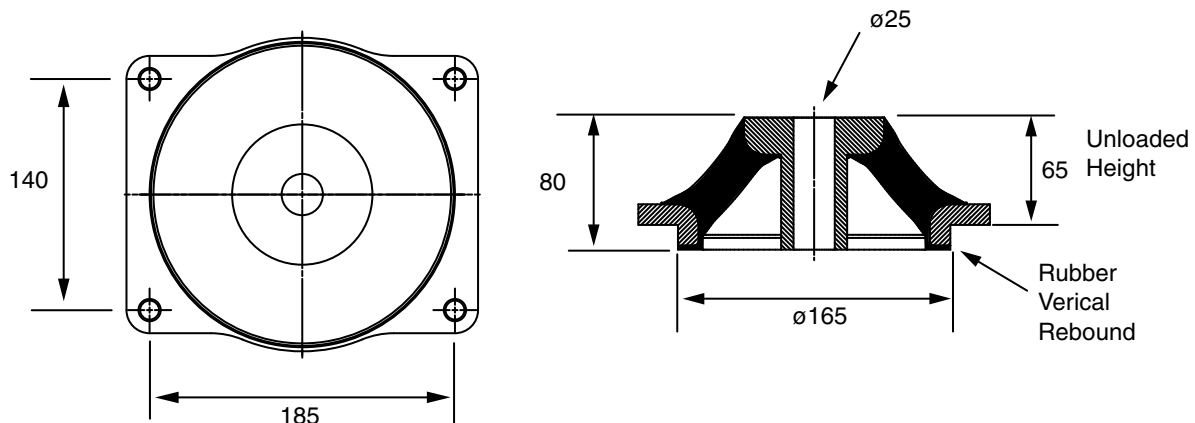
## M70675

M70675 is a one piece recessed flange isolator that provides a low profile method of supporting a range of equipment. Their fail safe feature protects supported equipment under shock loads



Compression			
PartNo	Kg	Def mm	Weight Kg
M70675	100	1.0	0.4
	147	1.63	0.4
	200	2.3	0.4

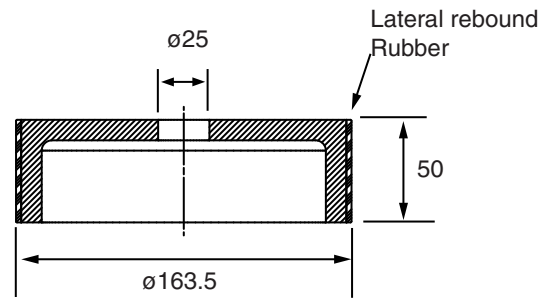
## Q - Mounts



Rebound Cup Installed					
Part No.	Max Vertical Load Kg	Max Vertical Deflection mm	Optimum Load Kg	Design Deflection mm	Weight Kg
M9030060	850	20	425	10	4.1
M9030068	1230	20	615	10	4.1
M9030075	1790	20	895	10	4.1
M90300W					

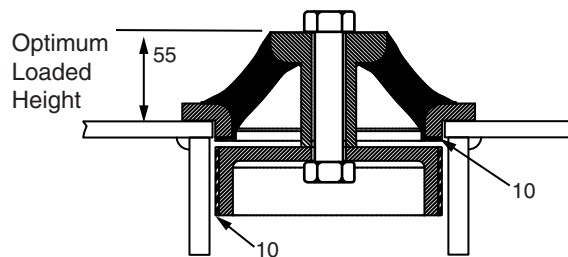
## Recessed Flange

### Q Mount Rebound Cup



Q - Mount rebound cup is specifically designed to fit into a recess providing rebound protection in vertical loading and lateral bump stop facility.  
Lateral clearance 10 mm maximum

### Rebound Cup Installation at Optimum Load

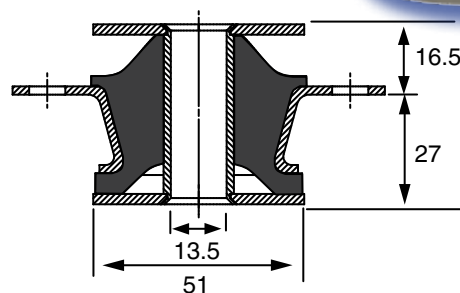
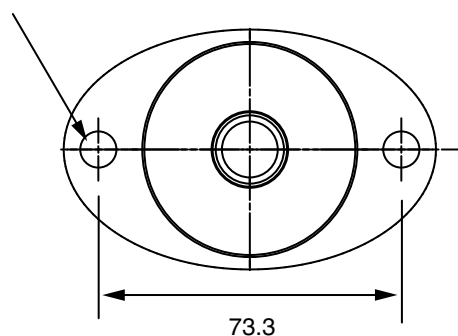


### Integral Rebound

(Type 304 Stainless Steel)

Designed for recessed fitting into chassis and frames. Integral overload and rebound washers eliminate the need for additional bump stops. Ideally suited to mounting exposed equipment

ø8.8



Part No.	Max Load Kg	Deflection mm	Weight Kg
M70250	90	6	0.25
M70265	180	6	0.25

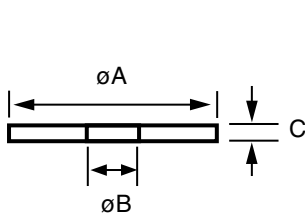
### Durometer

Duro	
50	Stamped
65	into Flange

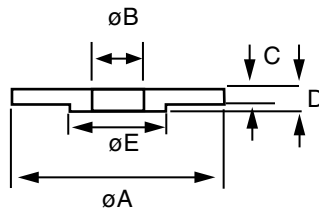
## OVERLOAD AND REBOUND WASHERS

Overload and rebound washers (top and Bottom) are necessary to limit maximum movement in the event of shock loading.

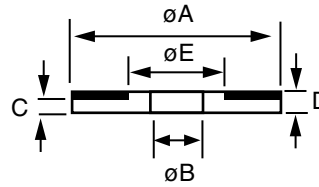
**Type A**  
Steel washer



**Type B**  
Top Stepped Steel Washer



**Type C**  
Rebound Washer with Rubber



PART No	TYPE	A	B	C	D	E	TOP WASHER OVERLOAD	BOTTOM WASHER REBOUND	WEIGHT Kg
M15286	C	48	12	3	6	28.5		M80409	0.1
M153526	C	95	25	6	14	47			
M153527	C	117	25	6	16	48			
M153528	C	67	20	5	10	35			0.2
M18146C	B	116	25	4	8	47			
M181550C	A	139	25	10			M801550	M801550	1.15
M18168C	B	155	25	4	8	47			
M18225H	B	80	20	3	6	34.5			0.25
M18409A	A	50	12	4			M80409		0.07

## Recommended Tightening Torque for Centre Fixing Bolts

THREAD SIZE	TORQUE (Nm)
M10	25
M12	40
M16	135
M20	180
M24	260



# Centre Fixing Isolators

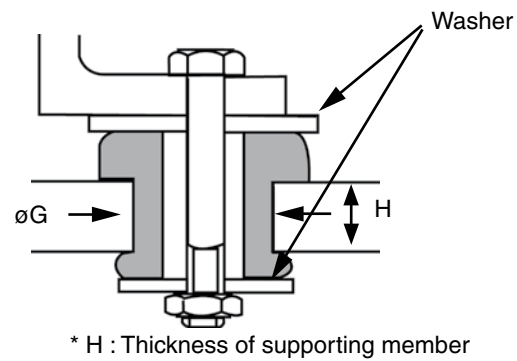
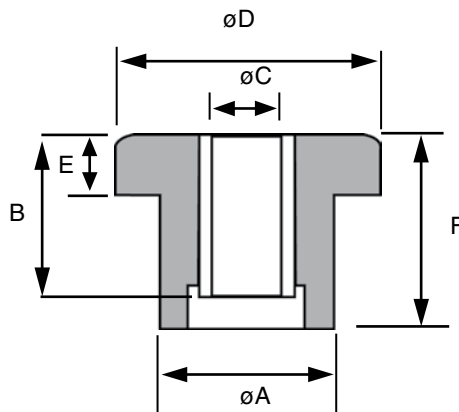
## Section 6



## Mobile Dual Compression

The Mackay dual compression mobile isolators have been engineered to isolate vibration, control shock and reduce noise due to structure borne vibrations. They have high load carrying capacity with improved multi-directional resilience and built in rebound protection.

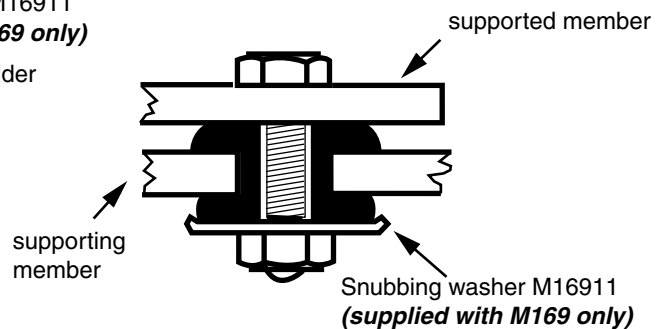
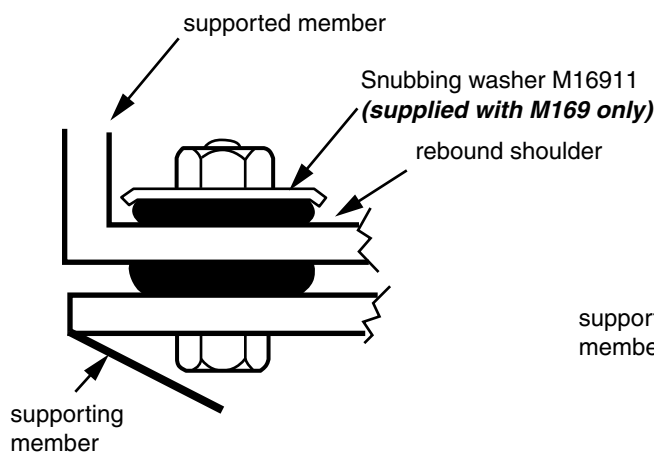
The isolators give versatility for protecting the equipment and improving operator comfort for all types of cabins and vehicles. Their engineered design balances stability with resilience to withstand high static and shock loading as well as providing fail safe assembly when installed with suitable washers.



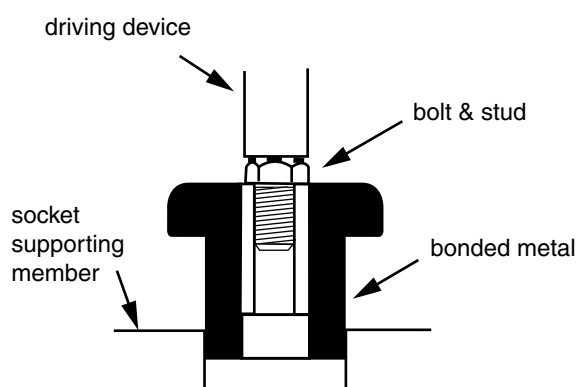
PART No.	A	B	C	D	E	F	G	H	WEIGHT Kg
M539887	20.6	17.5	10	27.7	5.6	20	20.6	8	0.02
M539190	31.5	25.4	13	44.5	10.4	32	31.5	10	0.05
M539886	34.3	35	13	50.8	13.5	42	34.3	16	0.08
M169	34	35	16	50	13	41.2	34	16	0.1
M187	41	44.5	13	63	22	51	41	16	0.2
M539191	41.1	44.5	16	63.5	15.7	51	41.1	19	0.2
M539951	56.6	50.8	20	95	25.4	62	56	20	0.4

**ALSO AVAILABLE ;** M189 MECHANICAL & CHEMICAL PROTECTION SHIELD.

### Methods of Mounting



PART No.	DURO	COLOUR CODE	STATIC LOAD Kg	DEFLECTION mm
M53988745	45	White	35	0.7
M53988760	60	Green	50	0.7
M53919045	45	White	75	1.2
M53919060	60	Green	100	1.2
M53919160	60	Green	250	2
M53919175	75	Blue	500	2
M53988660	60	Green	150	1.2
M53988675	75	Blue	330	1.2
M53995145	45	Marked 45	700	3
M53995165	65	Marked 65	1000	3
M16940	40	Red	100	1.5
M16950	50	Yellow	150	1.5
M16960	60	White	250	1.5
M18740	40	Red	200	3.3
M18750	50	Yellow	200	2.3
M18760	60	White	200	1.4
M18770	70	marked 70	500	2.3



**\* INSTALLATION NOTE:** Tighten nut to pull mounting bracket and snubbing washer firmly against inner member.

## INSTALLATION IS SIMPLE

- Both the isolator and the socket should be lubricated with water.
- Insert part in socket and rotate by hand , while applying axial force until partially positioned. Insert driving bolt , stud or assembly fixture in the metal inner member of the mounting. **Care should be taken** that the driving device does not overhang the outside diameter of the inner member in order to prevent damage to the Elastomer.
- Apply pressure to the driving device to seat the mounting in its socket.
- Assemble the other elements of the support , insert the mounting bolt and tighten by applying the required torque. When the nut is tightened against the snubbing washer , the rebound shoulder is formed automatically. The resulting pre-compression will ensure optimum performance.

## Description

The Mobile Two Piece isolator is made of two parts of elastomer bonded to a central tube.

- Interior reinforced : cylindrical tube
- Elastomer: Neoprene. Range of three different stiffnesses.

## Operation

The design of the Mobile Two Piece isolator gives the following basic characteristics.

- Elastomer element resistant to oils.
- Absorb vibrations and reduce noise in all directions.



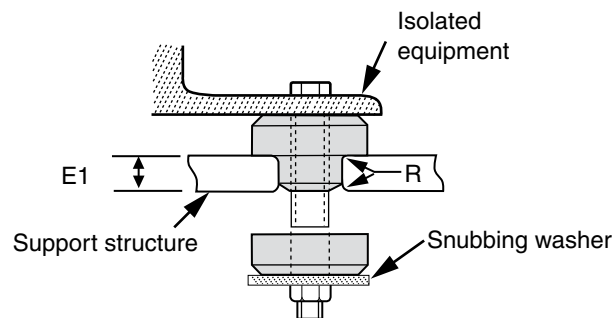
## Advantages

- Good isolation against structural noises.
- Neoprene resistance to oils, most solvents and ozone.
- Simple and economical
- Simple to fit
- Four sizes for load capacity under axial loads from 18-953Kg
- Anti-rebound effect when it is assembled with a washer.

## Applications

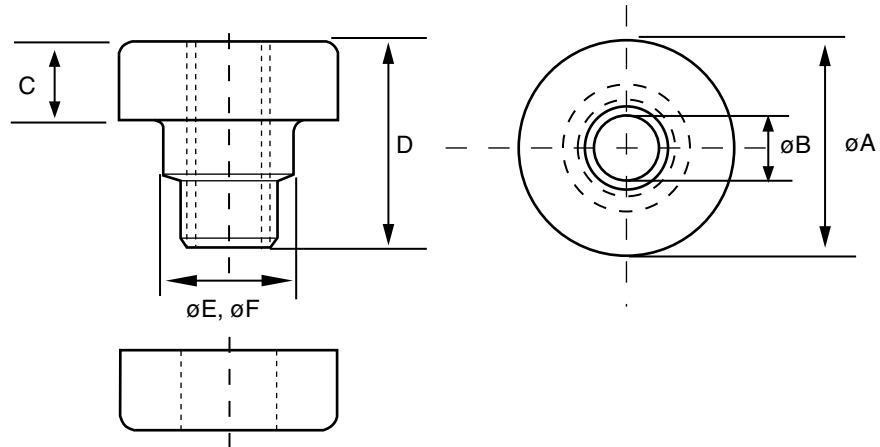
Mobile Two Piece isolator can be used in static or mobile applications , such as:

- Pumps
- Generators
- Engines
- Plant cabs
- Compressors
- Electronic equipment
- Transmissions
- Radiators



Part No	Colour Code Neoprene	Support plate details			Load per isolator		Bolt Information		
		Duro	E1 (mm)	R (mm)	Load Kg	Def mm	Size mm	SAE Grade	Max (Nm) Torque
M83090311	red	40	9.5	1	18	1.2	9	5	40
M83090313	white	60	9.5	1	64	1.3	9	5	40
M83090315	"75" in silver pen	75	9.5	1	136	1.6	9	5	40
M53090321	red/white	40	14.3	1.5	59	1.9	13	8	162
M53090323	green/white	55	14.3	1.5	109	2.1	13	8	162
M53090325	purple/white	75	14.3	1.5	286	2.4	13	8	162
M53090331	red/white	40	22.2	2.3	95	2.3	16	8	298
M53090333	green/white	55	22.2	2.3	222	2.5	16	8	298
M53090335	purple/white	75	22.2	2.3	604	2.9	16	8	298
M53090341	red/white	45	28.6	3	123	2.7	22	8	813
M53090343	green/white	55	28.6	3	350	3	22	8	813
M53090345	purple/white	75	28.6	3	953	3.5	22	8	813





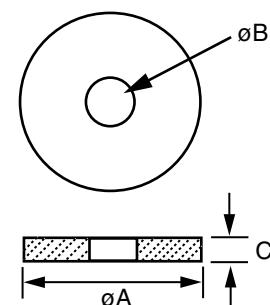
E:  $\phi$  Isolator  
F:  $\phi$  Mounting Hole  
D: Free Height

Part No	$\phi A$ mm	$\phi B$ mm	C mm	D mm	$\phi E$ mm	$\phi F$ mm	Weight Kg
M83090311	33.2	10	12.3	31.7	20.1	19	0.04
M83090313	33.2	10	12.3	31.7	20.1	19	0.04
M83090315	33.2	10	12.3	31.7	20.1	19	0.04
M53090321	47.7	13.5	19.8	49.2	33	31.7	0.14
M53090323	47.7	13.5	19.8	49.2	33	31.7	0.14
M53090325	47.7	13.5	19.8	49.2	33	31.7	0.14
M53090331	64.8	16.7	22.8	61.7	40.1	38.1	0.31
M53090333	64.8	16.7	22.8	61.7	40.1	38.1	0.31
M53090335	64.8	16.7	22.8	61.7	40.1	38.1	0.31
M53090341	88.9	23.8	25.4	73.1	58.4	57.1	0.67
M53090343	88.9	23.8	25.4	73.1	58.4	57.1	0.67
M53090345	88.9	23.8	25.4	73.1	58.4	57.1	0.67

Snubbing washers are recommended for the assembly of the isolator. They ensure correct static and dynamic loading of the isolator and protection of suspended equipment under shock loads.

## Snubbing Washer Sizes

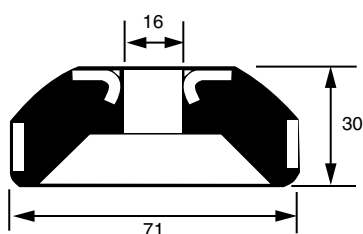
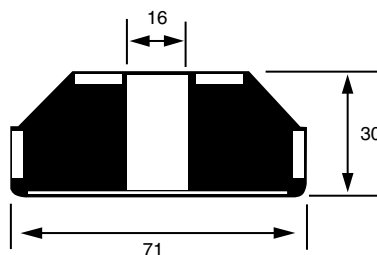
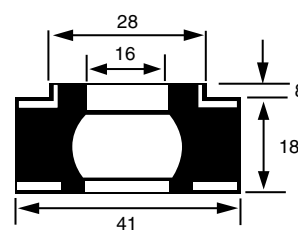
To Suit Isolator Part No	$\phi A$ mm	$\phi B$ mm	C mm
M83090311-15	39.6	10.3	2.2
M53090321-25	54.1	13.5	3.4
M53090331-35	71.3	16.7	4.7
M53090341-45	98.5	23.8	6.3



**Note: Snubbing washers are not supplied by Mackay Consolidated Industries.  
The Standard material should be low-carbon steel**

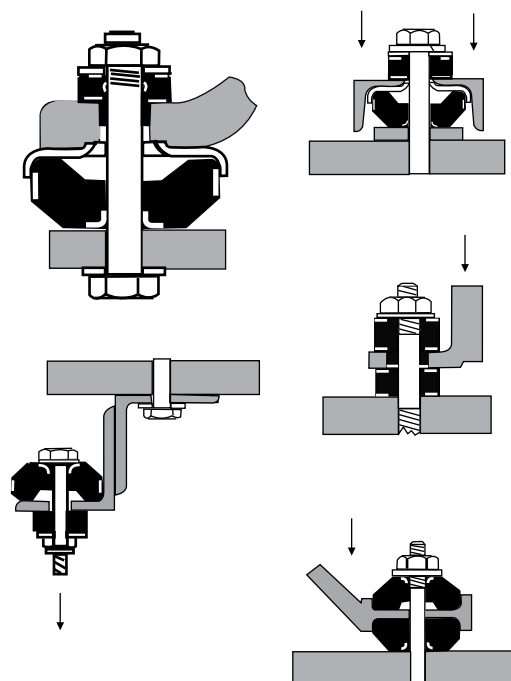
Combination isolators provide the excellent shock absorbing properties of rubber in shear and compression with good dynamic cushioning under rugged operating conditions.

These isolators are designed to be used as an assembly. The rebound unit limits the free movement of the equipment to some extent, but this restriction is very desirable in mobile installations. **Care must be taken when installing** to ensure that the nut is not drawn too tightly so as to avoid any excessive pre-loading of the isolator and rebound unit.

**M104****M204****M107**

PART No.	LOAD Kg	DEF. mm	Duro	WEIGHT Kg
M10440	57	4	40	0.2
M10450	90	4	50	0.2
M10460	125	4	60	0.2
M10470	180	4	70	0.2
M204	270	4		0.2
M10740	115	4	40	0.05
M10750	170	4	50	0.05
M10760	250	4	60	0.05
M10770	280	4	70	0.05

## Typical Mounting Systems



## Colour Code

DURO	COLOUR
40	red
50	yellow
60	white
70	Marked 70

# Shear Type Isolators

## Section 7

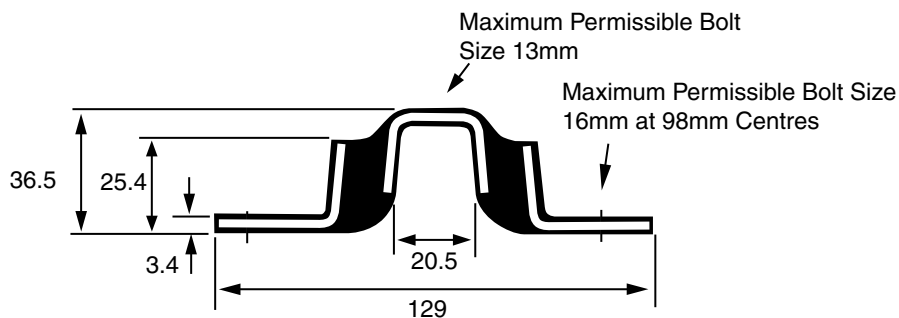
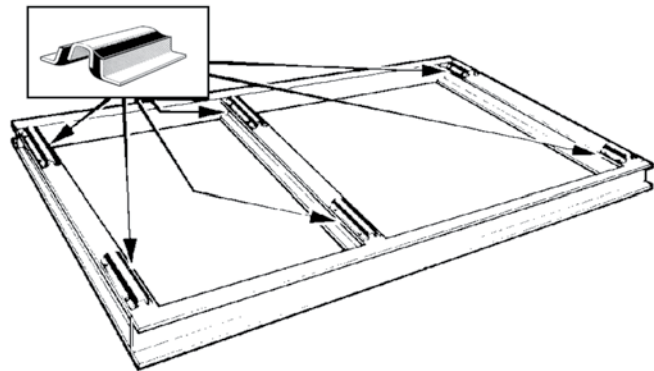


## Double Shear

This isolator is particularly versatile and suitable for all types of machinery and structures. The M100 is well suited to installations that require the isolator to resist the sideways pull with belt driven loads and to maintain the centre distance for gears, without a loss of isolation efficiency in the vertical direction. The isolator consists of three steel members which are securely bonded to two sections of rubber in its most effective manner i.e. in shear with progressively increasing compression. The M100 mount is available in 50 and 60 Duro. The mounting holes can be drilled to suit your own individual requirements. The isolator can be bolted or welded to a separate retention plate if preferred, but SECURE fixing is generally recommended.

**IMPORTANT ; The M100 isolator should be securely fixed to the foundations before the load is applied to prevent the mount spreading and therefore , not allowing it to obtain the correct deflections.**

The standard lengths are 150mm and 300mm. If you require a load rating that calls for smaller lengths it is an easy matter for you to cut to the required size.



### Load Rating

Part No & Duro	Length mm						
	25	50	75	100	150	300	
M10050	10Kg	26Kg	40Kg	58Kg	75Kg	160Kg	As measured at 3mm deflection
M10060	22Kg	60Kg	87Kg	125Kg	170Kg	340Kg	

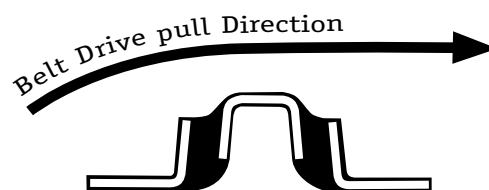
### Weight per Length

Part No	150mm	300mm
M10050	0.8Kg	1.5Kg
M10060	0.8Kg	1.5Kg

### Colour Code

Duro	Colour
50	Yellow
60	White

The M100 isolators are ideal for belt drives etc. and should be installed with tension as shown



Mackay U-Flex isolators are a general purpose isolator which offer excellent protection against vibration and shock to a wide range of applications including electronic apparatus, vibratory feeders, general machinery as well as equipment in packing cases during transit.

U-Flex isolators are most flexible in directions X and Y (Fig1 ) when the rubber is used in shear and offer greater stiffness in direction Z where the rubber is used in compression. This characteristic is particularly useful when limitation of movement is required in one direction.

Fig1

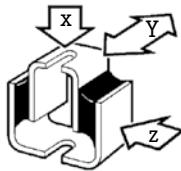
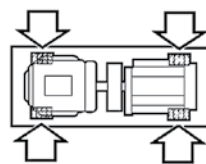
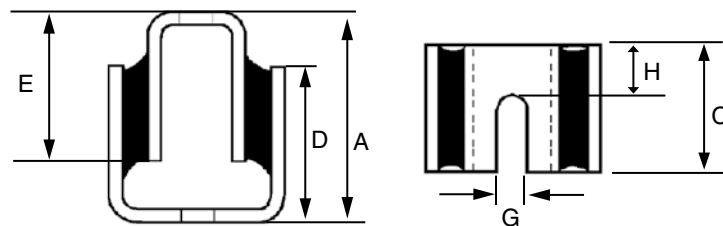


Fig2

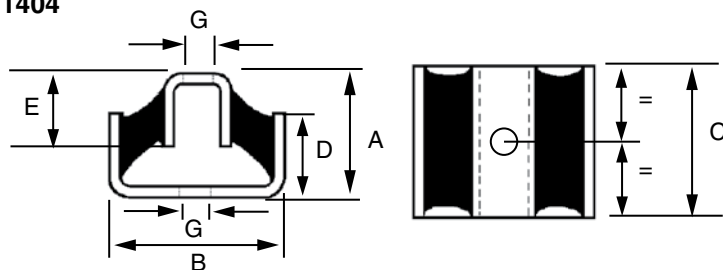


If used as engine supports ( fig 2) the U- Flex isolator should be employed so that maximum flexibility ( X ) is used vertically and ( Y ) at right angles to the crankshaft as the vibrations are most severe in these directions.

## M1403



## M1404



Part No.	A	B	C	D	E	F	G	H	Duro	WEIGHT Kg
M140350	108	86	64	83	76	38	16.7	32	50	1.0
M140450	41	60	51	29	24	20	11	-	50	0.2

## Load Range

Part No	STATIC LOAD kg	DEFLECTION mm
M140350	200	7.5
M140450	50	8

\* Available in other rubber hardnesses on indent order only and subject to minimum order quantity



# Suspension Isolators

## Section 8



## Suspension

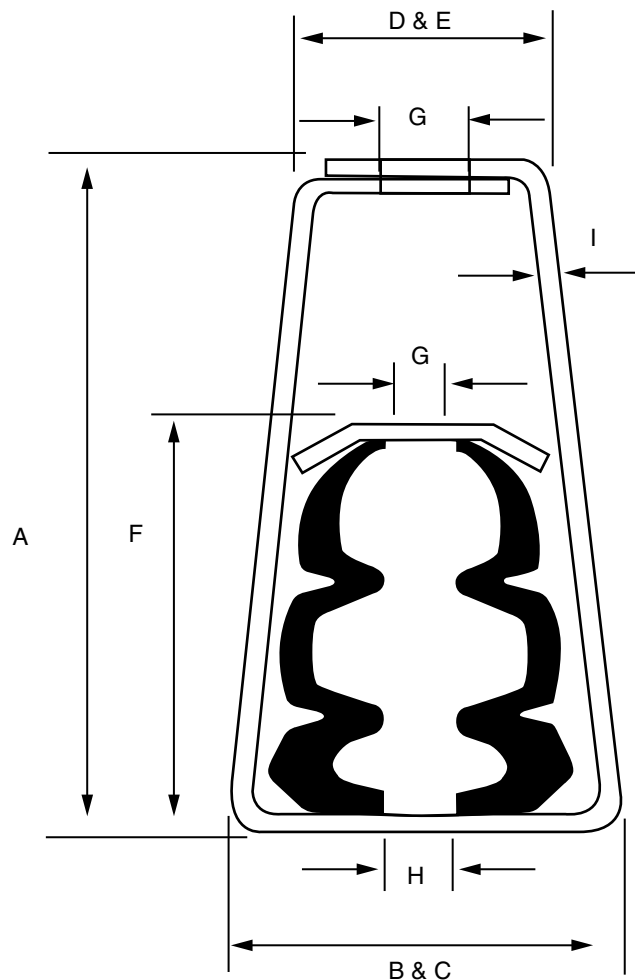
Suspension isolators have been designed for use in the building and construction industry. Use of these isolators will give satisfactory isolation of vibration and structural borne noise transmitted in piping and ductwork.

The mountings work equally well when used in heavy pipe installations, air conditioning, ducting, suspended fan units or acoustical ceilings. Supplied in two parts, the mountings are easily installed. The frame is fixed to the building structure by loxin bolts, welding or other suitable means. The rubber flexible element is then installed in the frame and the hanger rod passed through the base of the assembled mount and fastened in position. Height adjustment can be made to ensure correct location of the suspended unit if threaded hanger rods are used. The smaller unit (M193) allows for pre-assembly of the hanger rod into the rubber element prior to raising into position. The assembled unit provides a strong, compact failsafe mounting for the suspension of all types of equipment. The components form an interlocking link, thus preventing failure in the event of destruction or damage to the rubber flexible element.

**M193**



**M197**



### Dimensions

PART No	A	B	C	D	E	F	G	H	I
M193	73	56	51	35	25	30	10	25	2.5
M197	178	102	76	64	76	106	19	32	3.2

Detail Drawing is Typical Only.  
Deflection tolerance  $\pm 1.6\text{mm}$

### Load Rating

PART No.	LOAD Kg	DEF mm	COLOUR CODE	DURO	WEIGHT Kg
M19350K	30	11	YELLOW	50	0.2
M19360K	45	11	WHITE	60	0.2
M197	91	19			1.5
	272	37			



Traxiflex suspension isolators eliminate noise from piping and suspended equipment.

Typical Applications:

- Suspension and insulation of single pipe against vibrations
- Insulation of acoustic false ceilings.
- Suspension of overhead hot air heating ducts.

## Shape A

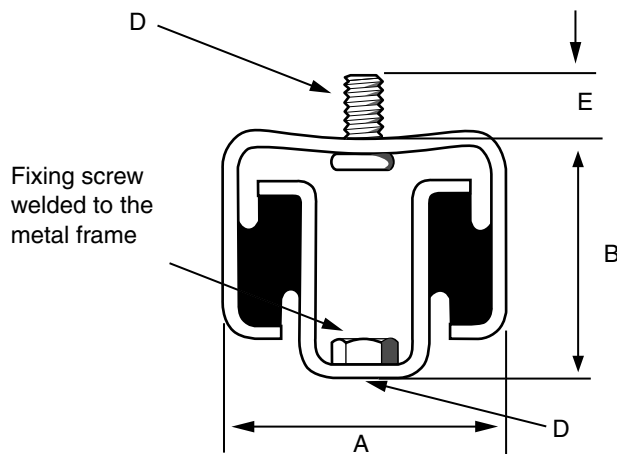


M53560345  
M53560360

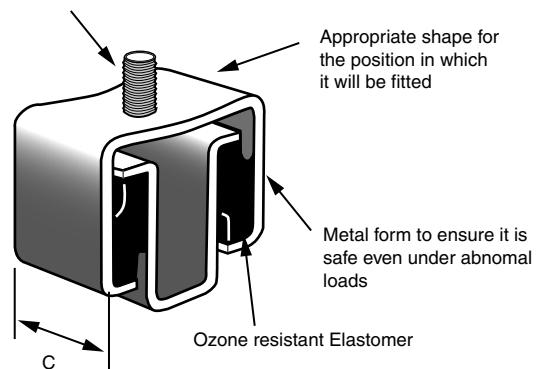
## Shape B



M53562145  
M53562160  
M53562245  
M53562260



Fixing bolt normally welded to metal frame



PART No	SHAPE	DIMENSIONS					LOAD RATING		Duro	WEIGHT
		A	B	C	D	E	LOAD Kg	DEFmm		
M53560345	A	47	38	16	M6	12	12-18	3-4	45	0.08
M53560360	A	47	38	16	M6	12	20-30	3-4	60	0.08
M53562145	B	55	47	30	M8	-	40-52	3-4	45	0.2
M53562160	B	55	47	30	M8	-	62-80	3-4	60	0.2
M53562245	B	74	50	40	M12	-	72-92	3-4	45	0.4
M53562260	B	74	50	40	M12	-	104-136	3-4	60	0.4

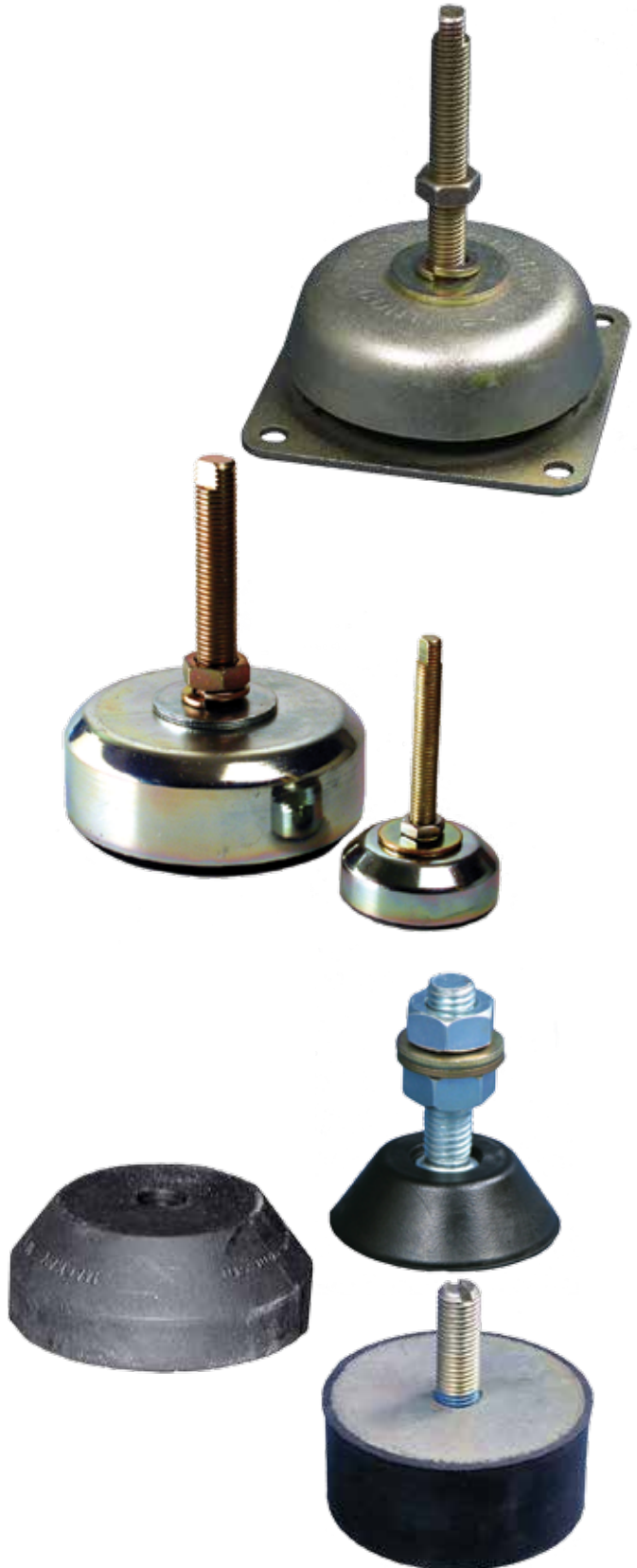
## Color Code

Duro	Colour
45	Grey
60	Green



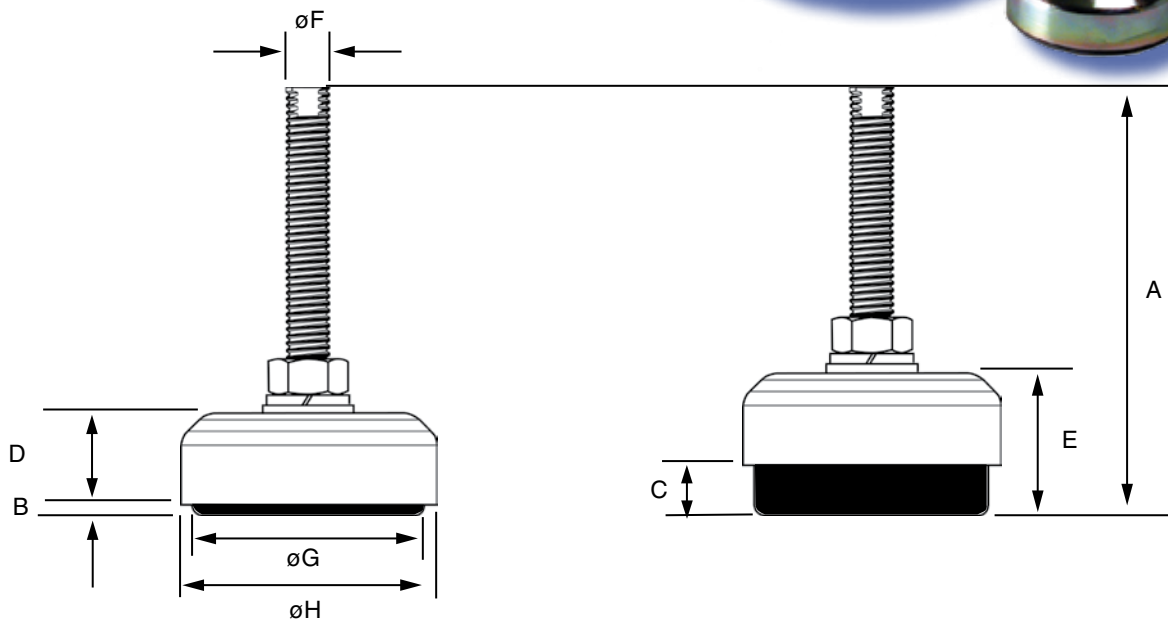
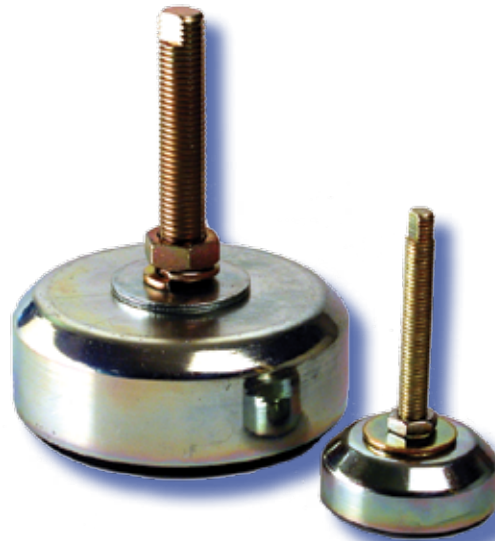
# Free Standing Isolators

## Section 9



Mackay Sure Foot Levelling Isolators are designed for cost-effective machine levelling for isolator loads up to 6000Kg. Sure Foot Levelling Isolators offer an effective and durable method for isolating free standing equipment and machinery on non-level surfaces.

Sure Foot standard range is made with electrolytically plated zinc applied to automotive standards. Where superior corrosion resistance is required Mackay recommends the Sure Foot stainless Steel alternative. Made using Nitrile rubber, Sure Foot offers superior chemical and oil resistance in comparison to natural rubber



## DIMENSIONS

PART NUMBER		OVERALL	EXPOSED BASE		ADJUSTMENT		DIAMETERS		
Standard	Stainless type 304	A mm	Min B mm	Max C mm	Min D mm	Max E mm	Thread F mm	Base G mm	Cap H mm
M400300	M410300	119	6.7	15	31.7	40	(M12x1.75)	64	71
M401200	M411200	144	8.8	28	50.8	70	(M16x2.0)	91	101
M402500		177	11.9	32	61.9	82	(M20x2.5)	135	144
M404000		212	14.9	40	74.9	100	(M24x3.0)	180	192
M406000		218	14.9	46	80.9	112	(M24x3.0)	203	216

## PROPERTIES

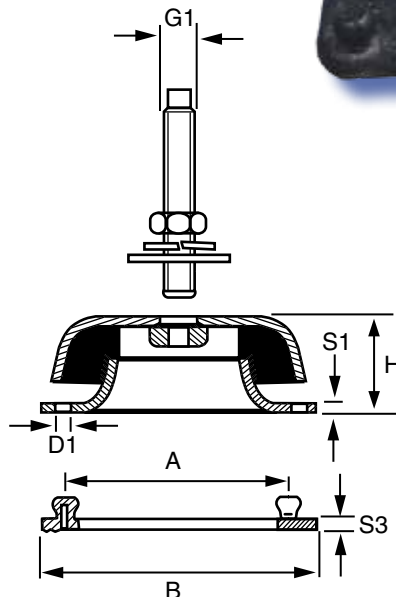
PART NUMBER		LOAD RANGE		DEFLECTION AT MAX EXPOSED BASE		Weight kg
Standard	Stainless type 304	Min kg	Max kg	Min Load mm	Max Load mm	
M400300	M410300	30	300	0.2	2.3	0.4
M401200	M411200	300	1200	1.5	5.9	1.1
M402500		1200	2500	3.0	6.3	2.5
M404000		2500	4000	4.1	6.5	5.2
M406000		4000	6000	6.5	9.7	6.4

This range of isolators offer increased protection to the rubber in applications where this is considered necessary as well as the metal components being galvanised to protect against corrosion. They are also available with a leveling spindle to allow effortless level adjustment so that the height of machines can be set precisely. The Isolators can be used without being anchored to the floor by the use of the rubber underlay which is resistant to oil. It is suggested that before mounting the underlay that the studs are moistened with soapy water.

The isolators provide excellent isolation efficiency with equal load capacity in both compression and shear. They are suitable for applications where restraint in the horizontal position is required but good isolation is needed in the vertical plane.

The isolators are available in three sizes and three elastomer hardnesses ; 40 duro, 55 duro, 65 duro , while providing load capacity from 50kg to 2,000kg.

Typical Mount with leveling spindle and underlay.



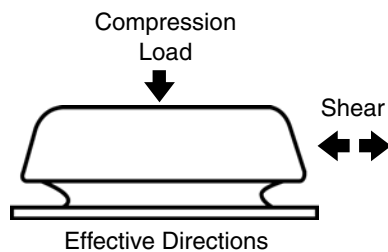
## DIMENSIONS

DOME MOUNT							Leveling SPINDLE	
PART No	B	A	D1	S1	H	G	PART No	G1
M51058540	108	88	9	3	40	M12	M510LS1	M12
M51033629	168	132	13	4	50	M16	M510LS2	M16
M51058541	200	165	13	6	70	M20	M510LS3	M20

UNDERLAY			MOUNT WEIGHT	
PART No	WEIGHT Kg	S3	PART No	WEIGHT Kg
M510UL1	0.01	2.5	M51058540	0.7
M510UL2	0.03	3	M51033629	1.7
M510UL3	0.11	4	M51058541	4.3

# Leveling

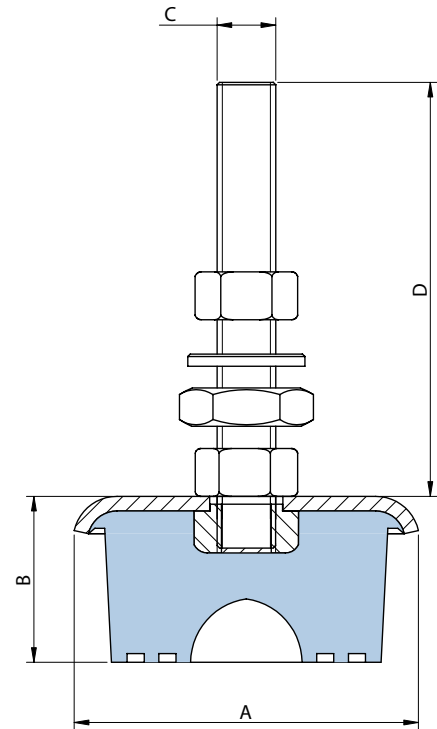
LOAD Kg	40 Duro Deflection mm	55 Duro Deflection mm	65 Duro Deflection mm
<b>M51058540</b>			
50	1.11	0.65	0.45
100	2.06	1.21	0.85
150	3.02	1.67	1.21
200	3.82	2.31	1.58
250	-	2.81	1.90
300	-	3.27	2.32
350	-	3.70	2.66
400	-	-	2.98
450	-	-	3.28
500	-	-	3.57
<b>M51033629</b>			
100	1.13	0.63	0.42
200	2.20	1.23	0.84
300	3.23	1.82	1.24
400	4.22	2.40	1.64
500	-	2.97	2.00
600	-	3.53	2.42
700	-	4.07	2.80
800	-	-	3.17
900	-	-	3.54
1000	-	-	3.90
<b>M51058541</b>			
200	1.67	0.93	0.63
400	3.24	1.82	1.25
600	4.50	2.73	1.83
800	5.56	3.51	2.46
1000	-	4.20	3.02
1200	-	5.24	3.65
1400	-	-	4.22
1600	-	-	4.75
1800	-	-	5.27
2000	-	-	5.75



## SV Type



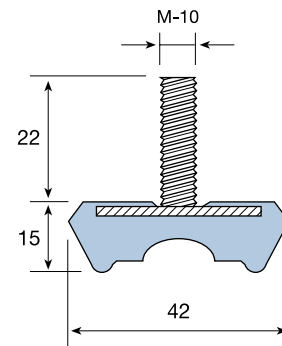
DIMENSIONS mm				LOAD Kg		WEIGHT (g)	MACKAY PART #
A	B	C	D	MIN	MAX		
40	23	M8	48	20	80	89	M143001
60	28	M10	81	60	120	235	M143002
70	32	M12	89	90	160	350	M143003



## JT Type



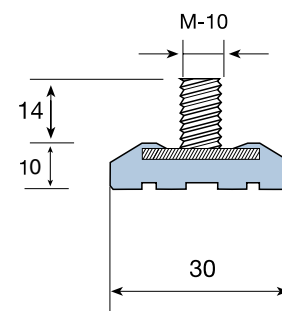
HARDNESS	LOAD Kg	WEIGHT (g)	MACKAY PART #
50	25-40	53	M144001
75	75-100	53	M144002



## SX Type



HARDNESS	LOAD Kg	WEIGHT (g)	MACKAY PART #
50	10-25	25	M145001



MINIFIX is a machine support that is composed of a rubber foot with a grooved anti-slip base and a threaded stud which allows equipment to be accurately adjusted.

- **ANTI-VIBRATION**
- **RELIABLE**
- **ECONOMICAL**

MINIFIX is produced in two rubber hardnesses and is supplied complete with locking nuts and washers.

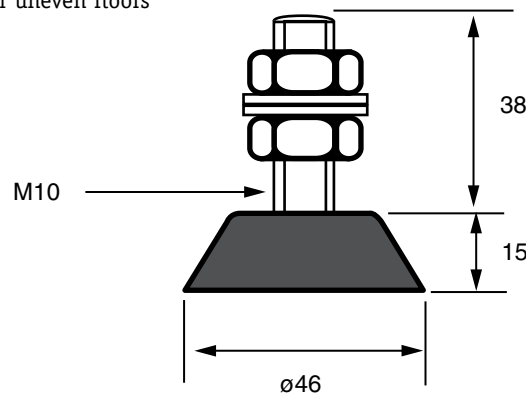
Simple and economical the MINIFIX machine foot is of particular use in the following applications ;

- ELECTRONIC CABINETS
- LABORATORY EQUIPMENT
- AGRICULTURAL EQUIPMENT
- PACKING MACHINERY
- SURVEYING EQUIPMENT
- MEASURING EQUIPMENT
- DOMESTIC APPLIANCES
- ELECTRICAL INSTALLATIONS
- FOOD PROCESSING MACHINES
- FACTORY EQUIPMENT

For larger load ratings please refer to our range of SUREFOOT machine levelling Isolators.

#### ADVANTAGES;

- No floor bolting required
- Controls noise, shock and vibration
- Save on installation and relocation
- Fast, simplified and precise levelling of all machines
- Compensates for uneven floors



Part Number	COLOUR	Material	LOAD RATING kgs	RECOMMENDED LOAD (N)	DYNAMIC STIFFNESS (kN/M)	DURO	WEIGHT Kg
M53080550	GREY	SBR (1)	30-40	300-400	570-660	50	0.1
M53080580	BLACK	Nitrile (2)	80-100	800-1000	5500-5800	80	0.1

(1) **POOR** resistance to Fuel, Oil & Grease

(2) **GOOD** resistance to Fuel, Oil & Grease

## Multibuffer

Refer **Section 2 Buffers** for details of the multibuffer range



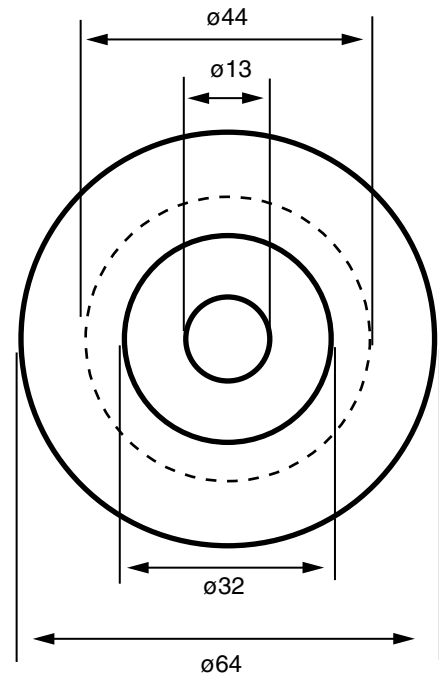
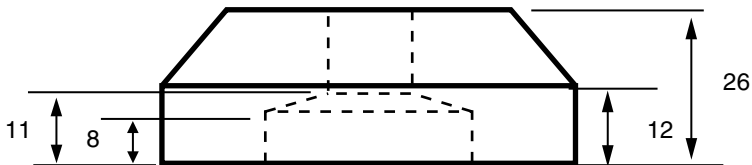


## Simple Machinery Foot Isolator

Part Number **M177MF**.

Typical Applications:

- Small generators
- Small compressors
- Portable equipment



### Load Rating Chart

Load	Def mm	Weight Kg
90	3	0.2



# Plate Isolators



## Section 10

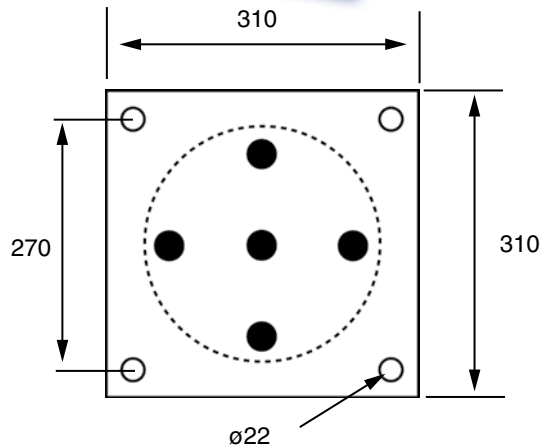


Where you require an isolator of straight forward design to provide an uncomplicated solution to controlling vibration and shock, the range of Mackay Plate Mountings provide the answer. These isolators are designed to protect equipment and machinery from damaging vibration and shock and have an excellent capacity for energy control.

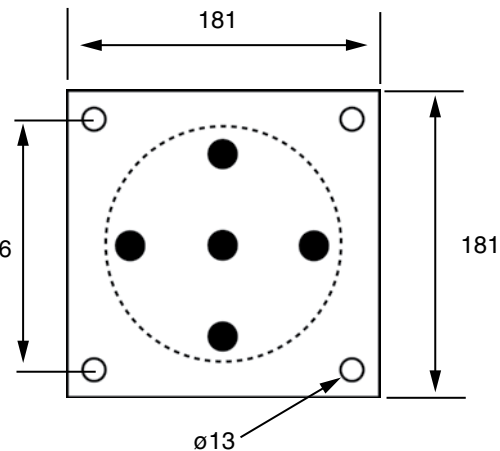
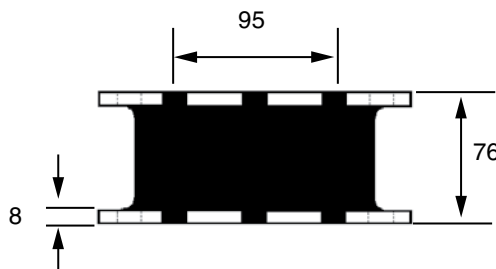
**APPLICATIONS:** Printing presses, Road rollers,  
Vibratory feeders, Shipping containers,  
Crushers, Shaker units, Industrial machinery.



**M148208**



**M2110##**



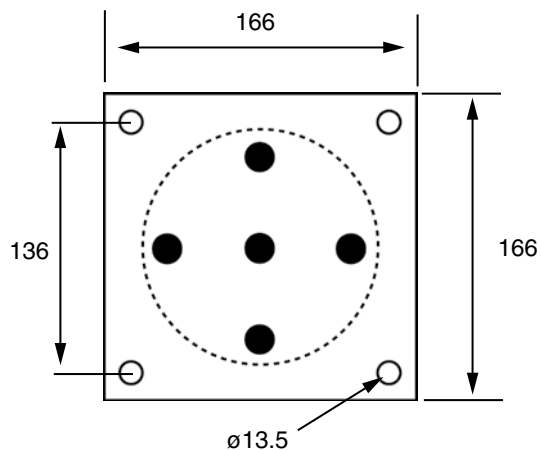
**M211160**

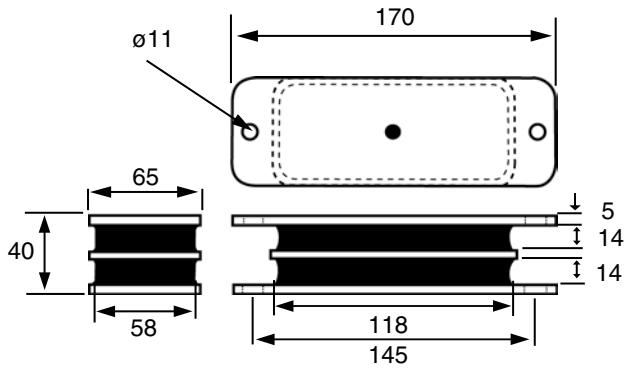


**M211260**



**M2112## SAW150**





## COLOUR CODE

M206135	GREEN
M206145	RED
M206155	YELLOW
M206165	WHITE

**M206 Series** (Supersedes M207,M208,M209,M210)

**M206135** Substitute \* for M207

**M206145** Substitute \* for M208

**M206155** Substitute \* for M209

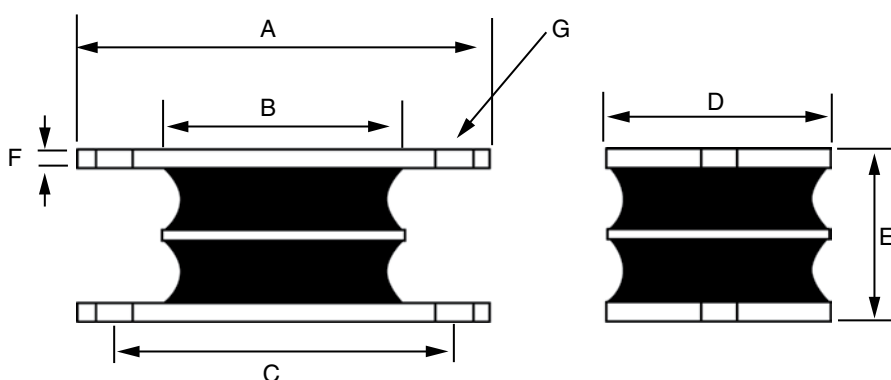
**M206165** Substitute \* for M210

\* Note: Some dimensions and properties have changed

PART No.	COMPRESSION LOAD Kg	DEF. mm	SHEAR LOAD Kg	DEF mm	DURO	WEIGHT Kg
<b>M148208</b>	10000	3.0			60	27
	20000	6.0				
	30000	9.0				
<b>M206135</b>	480	2.0	30	3.0	35	1.2
	730	3.0	50	5.0		
	970	4.0	70	7.0		
<b>M206145</b>	710	2.0	50	3.0	45	1.2
	1060	3.0	80	5.0		
	1410	4.0	110	7.0		
<b>M206155</b>	920	2.0	60	3.0	55	1.2
	1380	3.0	100	5.0		
	1840	4.0	140	7.0		
<b>M206165</b>	1320	2.0	80	3.0	65	1.2
	1980	3.0	140	5.0		
	2640	4.0	190	7.0		
<b>M211045</b>	300	2.0	57	2.5	45	5.2
	558	4.0	137	6.0		
	841	6.0	248	12.0		
	1144	8.0	308	16.0		
	1452	10.0				
<b>M211060</b>	607	2.0	100	2.0	60	5.2
	1195	4.0	176	4.0		
	1789	6.0	260	6.0		
	2432	8.0	341	8.0		
	3104	10.0	418	10.0		
<b>M211160</b>			498	12.0		
	832	2.0	79	2.0	60	5.5
	1758	4.0	132	4.0		
	2722	6.0	197	6.0		
	4064	8.0	341	8.0		
<b>M211260</b>			324	10.0		
			381	12.0		
	1725	2.0	106	2.0	60	6.2
	3640	4.0	277	6.0		
	6130	6.0	441	10.0		
<b>M211275SAW150</b>	9476	8.0	608	14.0		
	3010	2.0	78	2.0	75	4.2
	6900	4.0	160	4.0		
	11700	6.0	240	6.0		
	17700	8.0	300	8.0		

**A combination of shear and compression loads will affect actual properties.**

M3128445  
M3132250

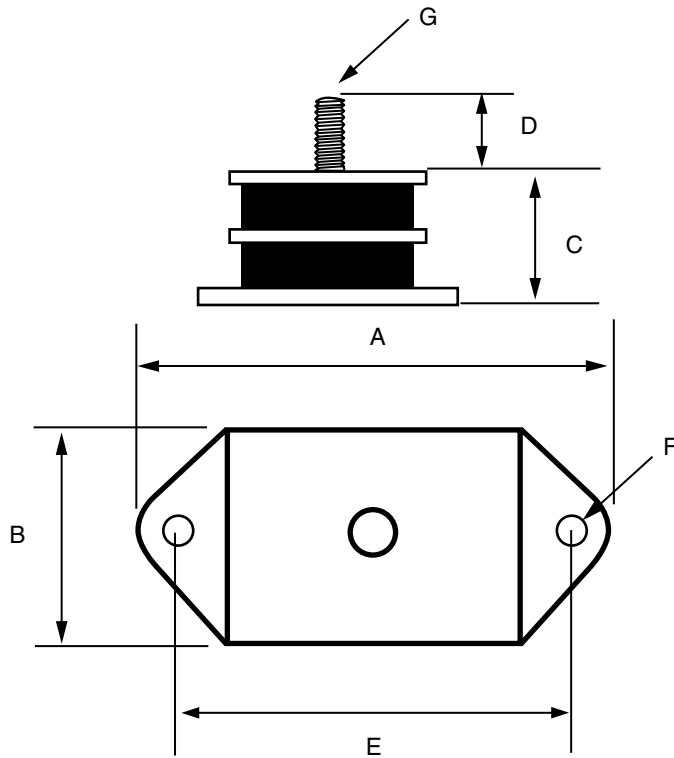


Part No	A	B	C	D	E	F	G
M3128445	127	82.5	108	57	43	5	11
M3132250	108	63.5	89	57	43	5	10.3

PART No.	COMPRESSION LOAD Kg	DEF mm	SHEAR LOAD Kg	DEF mm	WEIGHT Kg
M3128445	120	0.9	30	3.9	0.84
	140	1.1	40	5.2	
	180	1.3	60	8.0	
	250	1.9	80	10.5	
	350	2.7	110	14.0	
	400	3.0			
M3132250	50	0.8	16	4.0	0.6
	65	1.0	22	6.0	
	80	1.3	32	8.5	
	115	1.8	42	11.0	
	145	2.0	52	14.0	
	160	2.5			
	195	3.0			

## COLOUR CODE

Duro	Colour
45	Blue
50	Pink

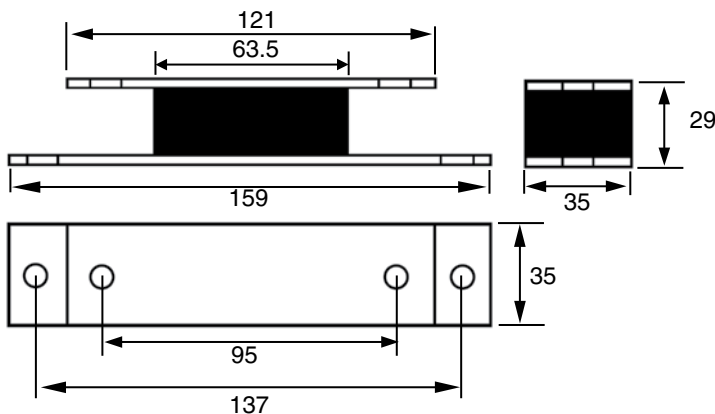


PART NO	A	B	C	D	E	F	G	LOAD in Kg		DEF in mm		DURO	WEIGHT Kg
								COMP	SHEAR	COMP	SHEAR		
M8040645	94	41	36	15	74.5	8.5	5/16" UNF	35-95	14-43	1.0-2.8	5.0-15.0	45	0.2
M8040660	94	41	36	15	74.5	8.5	5/16" UNF	65-175	27-70	1.0-2.8	5.0-12.0	60	0.2
M8040670	94	41	36	15	74.5	8.5	5/16" UNF	95-275	42-120	1.0-2.8	5.0-14.0	70	0.2

## Colour Code:

Duro	Colour
45	Red
60	White
70	Marked 70

## M183



PART No.	COMPRESSION		SHEAR		WEIGHT Kg
	LOAD Kg	DEF mm	LOAD Kg	DEF mm	
M183	50	1.4	5	1.1	0.3
	75	2.0	10	2.3	
	100	2.7	13	3.0	
	110	3.0			





# Hy-Deflection Isolators

## Section 11



## Hy-Deflection

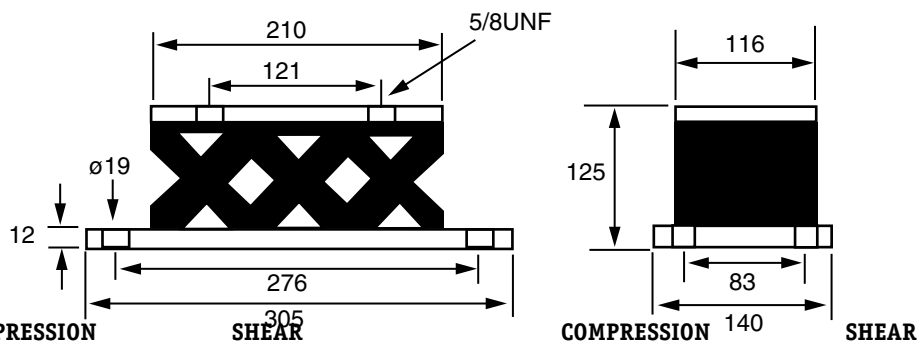
Hy-Deflection Isolators provide flexible support for mechanical apparatus which is subject to intermittent or continuous, low frequency, high amplitude vibration. The design provides soft spring rate quality in all directions with exceptional horizontal stability.

### APPLICATIONS;

Hy-Deflection Isolators are traditionally used in equipment where a high degree of vibration isolation is required, such as; Vibrating Screens, Vibrating Conveyors, Generators, Industrial Refrigeration Units, Air Conditioning Compressors, Industrial Pumping Equipment and Shipboard Applications. The ease of installation makes it suitable for numerous other applications.



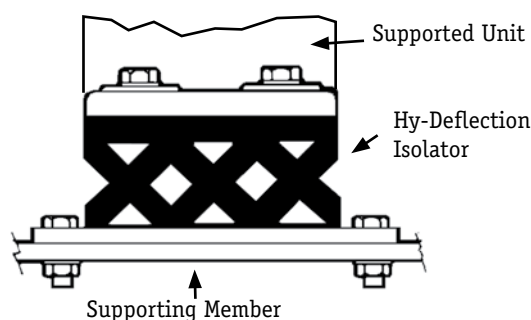
Isolator Weight 10.0 Kg



PART No.	LOAD Kg	DEF mm	LOAD Kg	DEF mm	PART No.	LOAD Kg	DEF mm	LOAD Kg	DEFmm
<b>M18840</b>	50	4	25	5	<b>M18875</b>	100	1	100	5
	100	7	50	10		200	2	200	9
	150	11	75	15		300	3	300	14
	200	14	100	20		400	5	400	20
	250	18	125	25		500	6	470	25
	300	21				600	8		
	350	25				700	10		
<b>M18860</b>	100	2	50	5		800	11		
	200	4	100	9		900	13		
	300	7	150	13		1000	16		
	400	10	200	18		1100	18		
	500	12	250	22		1200	21		
	600	17	300	28		1300	24		
	700	22				1400	26		
	800	28							

### TYPICAL INSTALLATION ARRANGEMENT:

These Hy-Deflection Isolators are recommended for use where the disturbing or forced frequency is as low as 5 hertz. Their lattice design provides a soft vertical spring rate combined with lateral stability. This isolator is intended for anti-vibration applications where high static deflections is required; but is not suitable for applications involving repetitive shock load.



These mounts offer great elasticity in the radial and axial direction. Their internal design makes them ideal mounts for machines that produce vibrations in 3 directions. The design of the mounts facilitates easy installation. The top metal part has an inside thread for securing to the machine, with two passing screw holes for the flange for securing to the bed plate.

- The metal parts are electrolytic coated to protect against corrosion.
- The rubber hardness is engraved on the metal parts

#### APPLICATIONS:

- Compressors
- Air-conditioners
- Ventilators
- Vibrating Tables

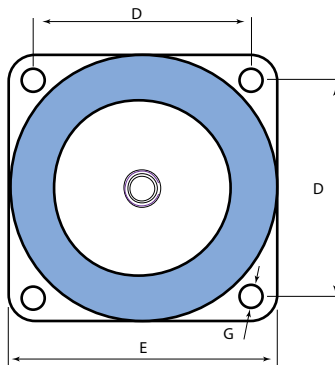
#### Replaces "M" Type Isolators



**M175031**

**M175036**

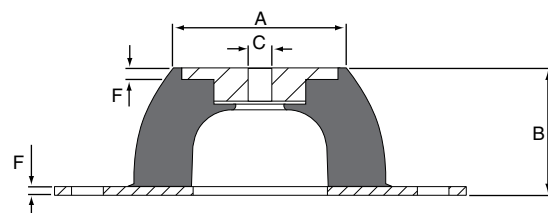
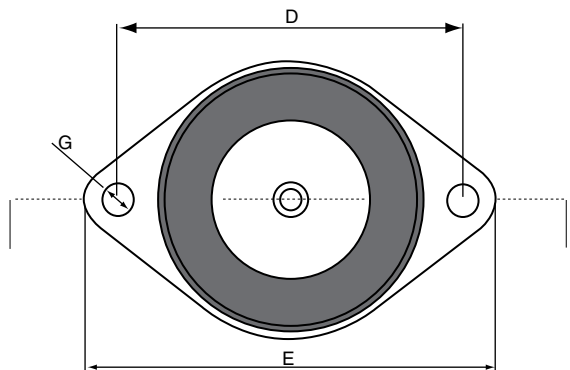
**M175041**



**M175001**

**M175003**

**M175021**

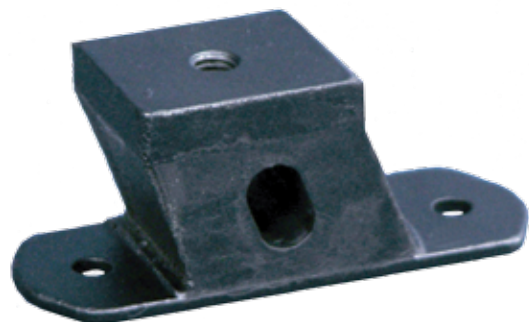


Part No	A	B	C	D	E	F	G	Load Kg	Deflection mm	Weight KgM
<b>M175001</b>	48	35	M10	92	114	2	10.0	40	4	.17
<b>M175003</b>	48	38	M10	110	136	2	11.5	70	11	.3
<b>M175021</b>	57	45	M10	124	151	3	11.5	130	9	.43
<b>M175031</b>	76	63	M12	120	150	3	14.5	280	14	1.08
<b>M175036</b>	93	85	M16	160	200	4	14.5	380	18	2.39
<b>M175041</b>	187	160	M24	250	310	6	18.0	1400	50	10.4



# Instrument Isolators

## Section 12



## Instrument Isolators

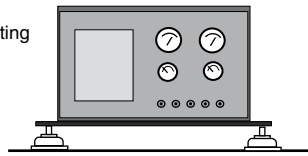
The Mackay range of instrument isolators are widely used to isolate steady static vibration and the control of occasional shock.

These mountings are easy to install and are in configurations to suit a variety of design requirements. It is generally recommended that snubbing washers be used to provide an interlocking system of metal parts which act to prevent damage from overload or excessive shock impact.

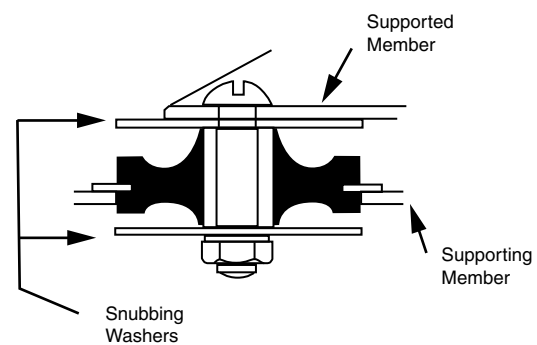
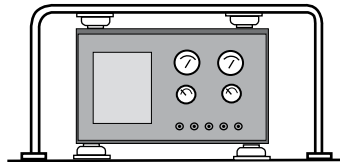
The snubbing washers act to restrict axial movement when space limitations must be considered, but they have no other effect upon the action or efficiency of the mounting. This type of isolator is particularly suitable for the isolation of noise transmission and similar high frequency vibration.



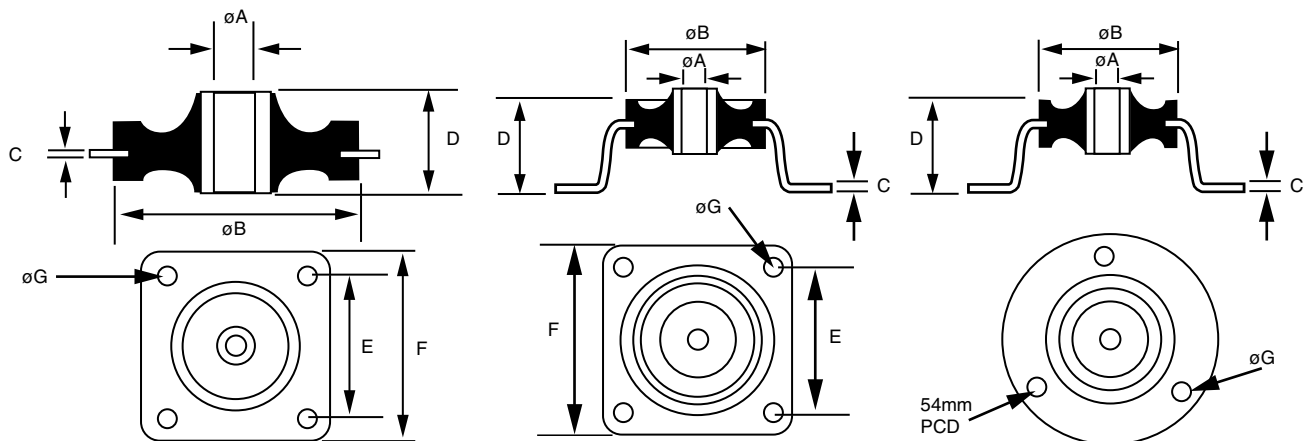
Standard Mounting Method



Mounting Mobile Equipment



**Note:** snubbing washes are not supplied by Mackay Consolidated Industries



### Dimensions

	M116	M117	M118	M161
A	6	4	6	10
B	38	26	40	51
C	1.2	1	0.9	1.2
D	16	10	26	38
E	35	24	-	64
F	44	33	-	76
G	4	4	3.5	7.0

PART No.	LOAD Kg	DEF. mm	WEIGHT Kg
M1164	1.8	1.5	0.03
M1166	2.7	1.5	0.03
M1168	3.6	1.5	0.03
M11612	5.4	1.5	0.03
M1173	1.3	1.5	0.01
M1182	0.9	1.5	0.04
M1185	2.3	1.5	0.04
M11810	4.5	1.5	0.04
M16125	11.3	1.5	0.1

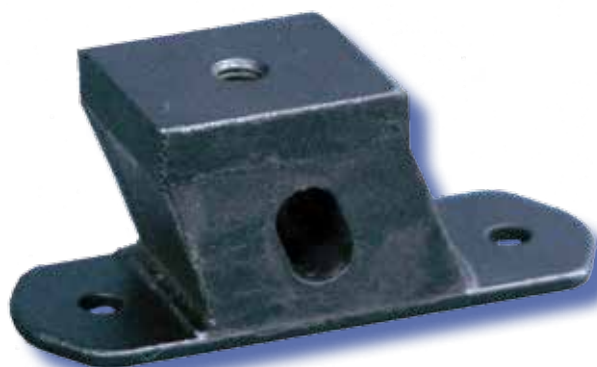
**Extra flexible.....ideal for shear stress applications  
Resilient bearing applications for lightweight machinery  
, precision instruments and equipment.**

The M513 isolators are designed for the suspension of precision instruments so that they can be suspended singly or in groups on a common baseplate.

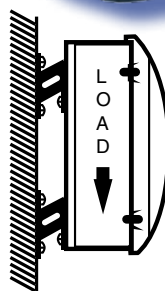
For the type of instruments that either show erroneous readings or are quickly damaged by even the slightest of shocks, these isolators are constructed so that easy deflections are ensured.

The M513 mounts are much stiffer in compression than in shear and therefore they should be installed so that the rubber is constantly in shear.

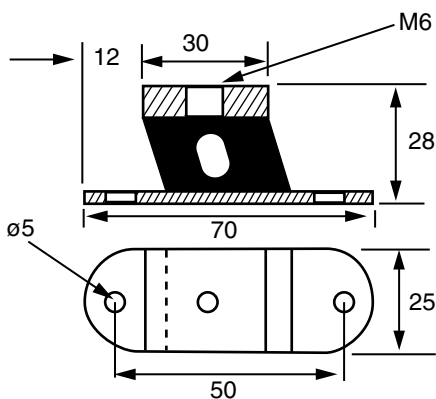
Being very suitable for low frequency isolation , they are excellent when used to isolate vibration and or shock in such items as closed circuit television cameras , scientific instruments , switchboards etc.



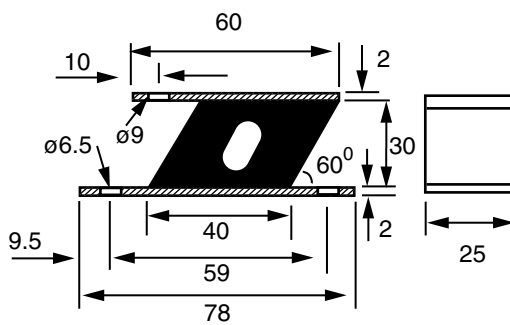
Isolator weight 0.07Kg



Method of mounting showing the rubber **constantly in shear**

**Part No M51325284**

**Part No M51321423**



40 Duro Isolators marked with a white dot.

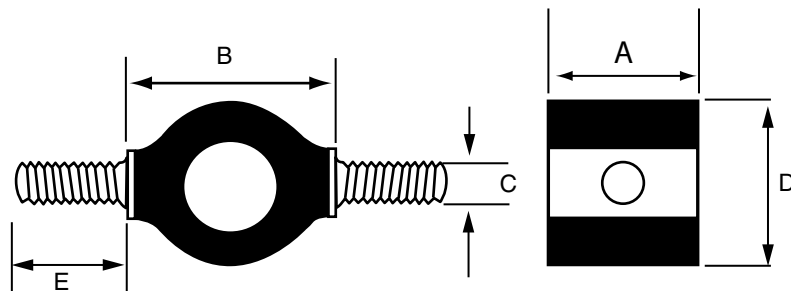
PART No.	COMPRESSION		SHEAR	
	Kg	DEF mm	Kg	DEF mm
M5132528440	5	0.86	3	2.91
	10	1.71	6	6.23
	20	3.47	9	10.37
	30	5.35		
	40	7.4		
M5132528455	10	0.94	3	1.55
	20	1.88	6	3.21
	30	2.83	9	5
	40	3.83	12	6.95
			15	9.19
M5132142340	10	2.12	5	5.7
	20	4.3	10	13.28
	30	6.42		
	40	8.36		
	50	10.18		
M5132142355	10	1.16	5	3
	20	2.34	10	6.33
	30	3.52	15	10.26
	40	4.74	20	15.22
	50	5.9		

## ANNULAR ISOLATORS

### *Replaces HY-Deflection - Low Frequency Isolators*

These anti-vibration isolators provide large deflections under small loads. They are employed for protecting instruments and apparatus from transmitted vibration and shock as well as vibration from light machines and equipment. They are normally fitted to take loads in compression or shear. Continuous loading in tension is not recommended although the occasional shock load which places the rubber in tension can be permitted. In compression, shock loads severe enough to close the centre hole can be taken with safety.

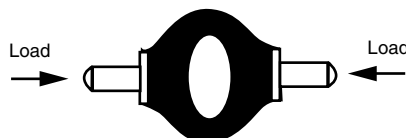
Low frequency instrument isolators are made in two sizes, each with a range of Duros available in each size.



PART No.	A	B	C	D	E	Load Kg	Deflection mm
M130001	15	17	m4	14	8	4.5	5
M130003	15	17	m4	14	8	8.5	5
M130002	30	30	m8	29	20	5.0	11
M130004	30	30	m8	29	20	9.0	11
M130004SS304P *	30	30	m8	29	20	9.0	11

\*Made Using Type 304 Stainless Steel

### Radial Compression Loading





# Flexible Bushes Plain Rubber

## Section 13

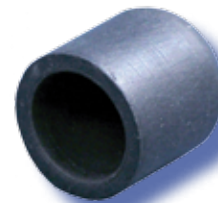
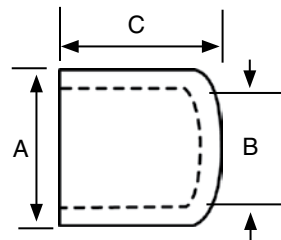
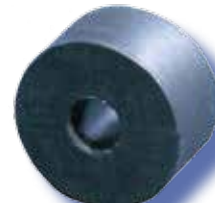
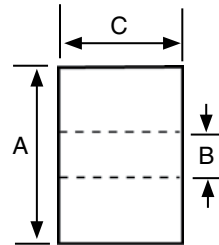
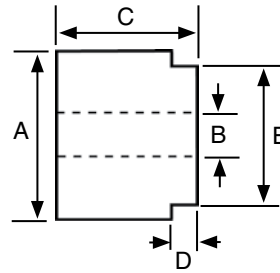


# Flexible Bearings

PART No	A	B	C	D	E	DURO	Weight Kg
A775	32.5	9.0	20.5	3.5	16.1	70	0.02
A755	25.7	9.0	18.5	3.5	14.6	75	0.01
A1032	31.5	12.5	15.0	1.5	19.5	50	0.01
A1169	37.4	9.1	18.0	1.6	13.5	65	0.02
A1015	23.7	9.5	7.4	1.5	12.0	65	0.0002
A950	27.0	10.5	22.5	5.0	20.5	75	0.02

PART No	A	B	C	DURO	Weight Kg
A1226	29.9	10.0	15.5	70	0.015
A1312	21.5	7.5	14.5	70	0.005
A92	25.2	9.5	16.3	60	0.005

PART No	A	B	C	DURO	Weight Kg
BC13	19.5	13	32	70	0.01
BC16	23.5	16	36	70	0.01
BC19	25	19	26	70	0.01
Replaces A1421					



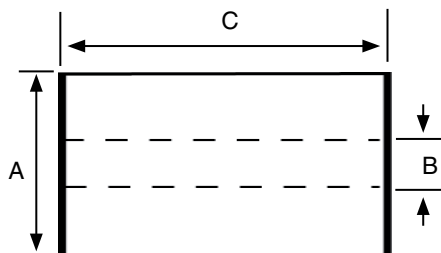
Nominal dimensions					Duro	Weight Kg
Part No	A	B	C	Description		
T604	71.0	28.0	107	All Rubber Bush	90	0.5
T604TD	71.0	23.0	100	(Nitrile)	90	0.5

**T604**



Chamfered End

**T604TD**

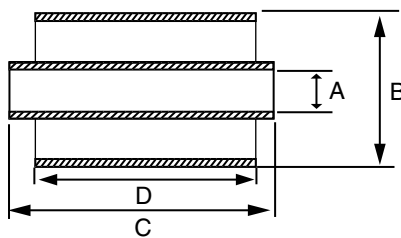


# Flexible Bearings Metal Tube & Rubber

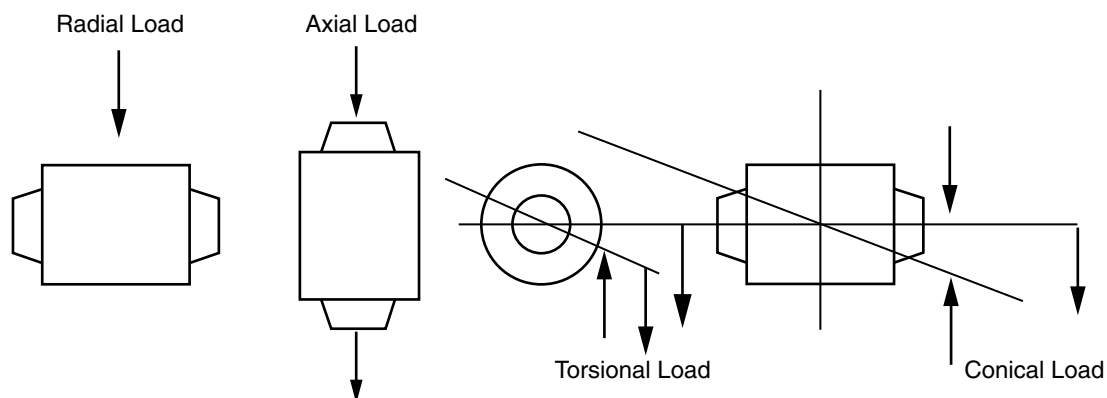
## Section 14



# Flexible Bearing



PART No.	NOMINAL DIMENSIONS				RADIAL		TORSIONAL	AXIAL		CONICAL	WEIGHT Kg
	A	B	C	D	STATIC LOAD Kg	DEF mm	MAX ANGLE DEGREES	STATIC LOAD Kg	DEF mm	MAX ANGLE DEGREES	
M561418	8	32	23.2	18	30	0.5	35	20	1.5	6	0.04
M561205	10	22	17	15	40	0.3	25	15	0.8	6	0.02
M561207	10	22	30	25	100	0.2	20	40	1.5	3	0.03
M561613	10	27	22	17	65	0.5	30	25	1.5	3	0.03
A1422	10	42.3	50	35							
A2055	10.1	29.2	54.7	50.4	-	-	-	-	-	-	0.1
A2053	10.2	31	40	26.1	-	-	-	-	-	-	0.08
A2058	10.2	31	50	32.8	-	-	-	-	-	-	0.1
M561213	12	25	34	30	120	0.2	20	50	0.8	3	0.05
M561250	12	25	54	50	550	0.3	20	45	0.6	1	0.09
A1639	12.0	55.2	54.2	43.0	-	-	-	-	-	-	0.2
A1928	12.3	55.2	76	60							
S241	12.7	25.4	73.1	64.3	-	-	-	-	-	-	0.1
S19	12.7	27.0	50.8	44.5	-	-	-	-	-	-	0.1
S229	13.0	52.2	78	64.0	-	-	-	-	-	-	0.3
A1311	14.3	35.0	45.0	37.5	-	-	-	-	-	-	0.5
S154	14.3	30.1	69.7	63.5	-	-	-	-	-	-	0.2
S284	15.8	33.1	63.9	60.0	-	-	-	-	-	-	0.2
M561312	16	32	28	25	140	0.2	20	50	1.6	5	0.07
A1869	18.3	55.4	60	45.5							
A1870	18.5	51.1	60	45.0							
M561384	20	38	42	38	230	0.2	25	75	1.0	3	0.2
M561335	20	38	59	55	300	0.15	20	150	1.0	2	0.2
M561404	20	42	42	38	300	0.3	25	90	1.5	4	0.2
M561411	24	48	44	40	160	0.3	20	110	1.5	2	0.2
M561400	24	48	58	50	350	0.3	20	120	2.0	2	0.3
M561409	28	48	66	60	400	0.15	20	190	1.1	2	0.3
M561503	32	52	66	60	600	0.15	20	260	2.2	1	0.4
M561701	42	78	86	80	1000	0.5	10	200	1.6	1	1.0
M561702	42	78	140	130	2000	0.6	20	400	2.0	1	1.7



## Installation Tolerances & Bracket Limits

### Rigid Housing Interference Fit

O.D Bush Dia (mm)	Housing Limit (mm)
UP to 22.0	-0.038 - 0.063
23.7 - 39.6	-0.050 - 0.076
41.2 - 50.8	-0.063 - 0.088
52.3 - 78.0	-0.076 - 0.113
80 - 125	-0.076 - 0.127

### Rolled Spring Eye

O.D Bush Dia (mm)	Spring Eye Limit (mm)
UP to 22.0	-0.25 - 0.50
23.7 - 28.5	-0.40 - 0.66
30.1 - 34.9	-0.63 - 0.88
36.4 - 41.2	-0.71 - 0.96
42.8 - 53.9	-0.86 - 1.11
55.5 - 70.0	-1.01 - 1.39

## Flexible Bearing

TPH1



TPH17



TPH21



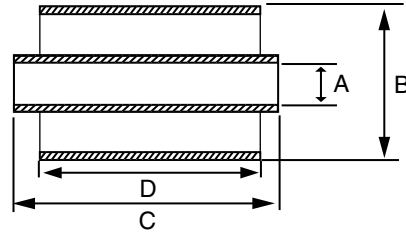
TPH30



TPH31

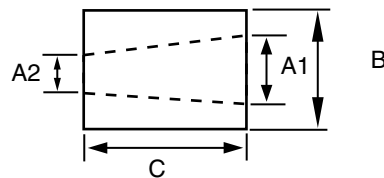


TPH36



Part No	Nominal dimensions				Description	Weight Kg
	A	B	C	D		
TPH1	28.2	76.0	82.5	63.0	Rubber / Steel Bush	1.6
TPH17	28.2	73.0	82.5	51.0	" "	1.3
TPH21	25.6	76.0	57.0	44.0	" "	1.1
TPH30	25.4	70.0	117.5	108.0	" "	1.8
TPH31	22.2	60.0	79.0	76.0	" "	0.9
TPH36	28.2	70.0	82.5	56.0	" "	1.1

TPL14



Part No	Nominal dimensions				Description	Weight Kg
	A1	A2	B	C		
TPL14	*50.7	42.0	105	71.0	Rubber / Steel Bush	2.1

\* Large End Taper

## SPECIFICATIONS

Part No	Radial Load			
	Constant Load Tonne	Def mm	Occasional Load Tonne	Def mm
TE34	14.0	1.3	33.0	2.7
TE38	14.0	1.3	33.0	2.7
TPH1	2.5	0.8	5.0	1.6
TPH17	-	-	-	-
TPH21	1.5	-	-	-
TPH30	6.0	-	-	-
TPH31	-	-	-	-
TPH36	-	-	-	-
TPL14	-	-	-	-

# Flexible Bearing Torsional

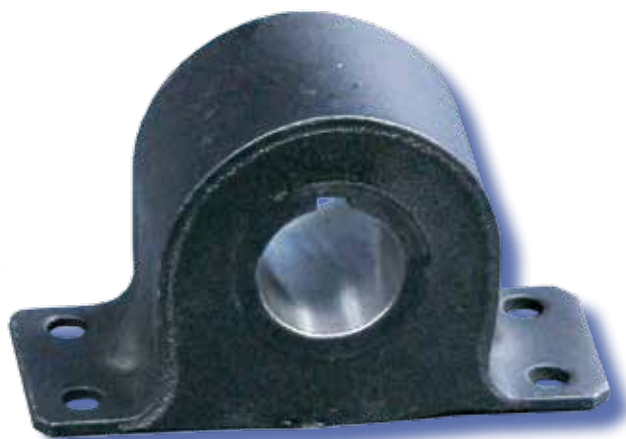
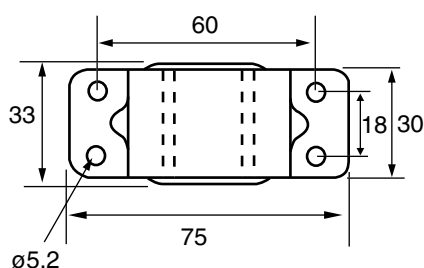
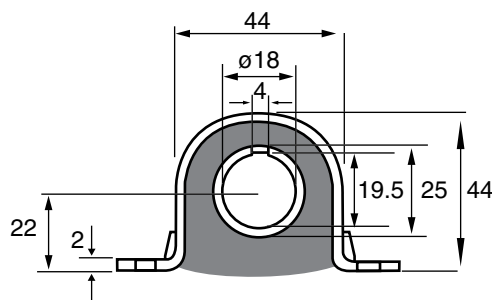
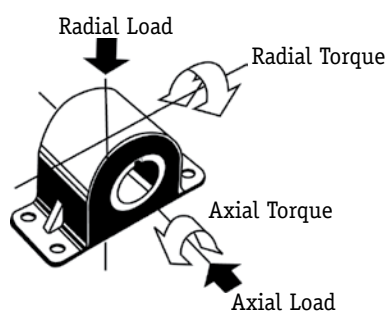
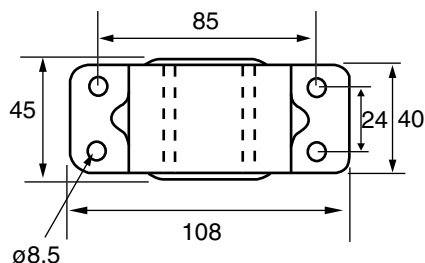
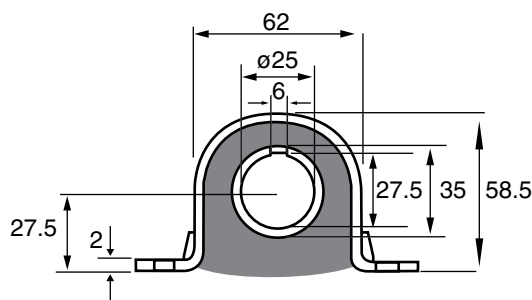
## Section 15



Torsion isolators lend themselves to a wide variety of applications as they can be subjected to compression, torsion or shear.

They are of particular use in all types of material handling equipment and because of the ease of fitment of the M512 series lend themselves to installation of connections and supporting links in shaker screens, conveyors etc.

The torsional stiffness of the M512 is particularly low and therefore reduces friction losses and power loss in vibrating drives and offers you a service free torsional bearing with equidirectional resilience.

**M5123151055****M5123151065****M5123170055**

\* Duro rating moulded into rubber

PART No.	RADIAL		AXIAL		RADIAL TORQUE		AXIAL TORQUE		DURO	WEIGHT Kg
	LOAD Kg	DEF mm	LOAD Kg	DEF mm	ANGLE DEGREES	kgm	ANGLE DEGREES	kgm		
<b>M5123151055</b>	110	0.7	120	4.5	4	1	30	3.5	55	0.2
<b>M5123151065</b>	110	0.5	140	3.5	2.7	1.2	20	3.5	65	0.2
<b>M5123170055</b>	200	0.8	250	7.5	4	2	34	10	55	0.4



# Safety Products

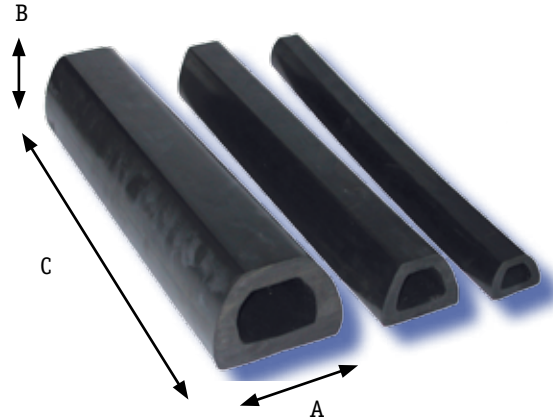
## Section 16



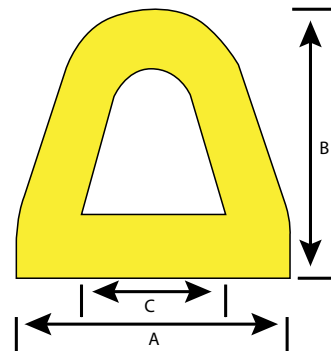
**DOCK - FENDERING RUBBER**

Part No	A mm	B mm	C* mm	Nominal Wall Thickness mm	Weight Kg
DR504003	50	40	300	10	0.33
DR504010	50	40	1000	10	1.4
DR756503	75	65	300	12	0.8
DR756510	75	65	1000	12	2.8
DR1059503	105	90	300	18	1.3
DR1059510	105	90	1000	18	5.6

\* Also available in selected lengths

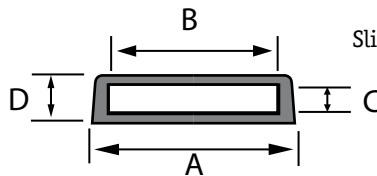
**High Visibility Docking Rubber**

Part No	A mm	B mm	C* mm	Length	Weight Kg
DRY50501200	50	50	25	1200	1.92
DRY75701200	75	70	45	1200	3.12
DRY100951200	100	92	50	1200	7.20

**SLING PROTECTOR**

A textile reinforced fully vulcanised high grade cut and abrasion resistant rubber sling and goods protector.

Suits webbing up to 90mm wide



Sling not Included

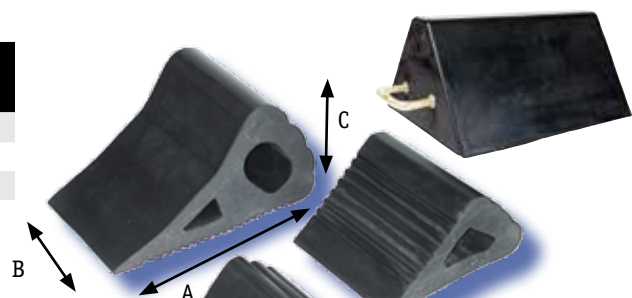


Part No	A mm	B mm	C mm	D mm	LENGTH mm	Weight KG
MACSLEEVE	115	95.2	15	27	1090	1.5

**RUBBER WHEEL CHOCKS**

Part No	Duro	A mm	B* mm	C mm	Weight Kg
WCS100	70	140	100	75	0.5
WCM150	70	155	150	155	2.2
WCL150	70	275	150	160	3.9
WCXL400	90	297	400	200	11

\* Also available in selected widths

**CORNER SAFETY PADS**

Part No	Description	Dimension mm	Length mm	Weight Kg
CSP-P6510	Safety Yellow	70x70x20	1000	0.8
CSP-L95	Yellow reflective tape on Black	95x95x20	900	1.1

Mackay Corner Safety Pads are an easily applied preventative solution for OH&S concerns and damage problems.



## Snubber and Tension Controller. Part No M194 TAKES THE SNAP AND THE DANGER OUT OF CHAINS UNDER LOAD.

The snubber design has an important advantage. During loading the rubber within the chain is put into compression, when the load is released the rubber springs back and the unit returns to its normal shape.

It consists of an endless circle of chain encased in a solid block of rubber. When a sudden impact or tension is applied, the chain expands and the shock is absorbed by the rubber.

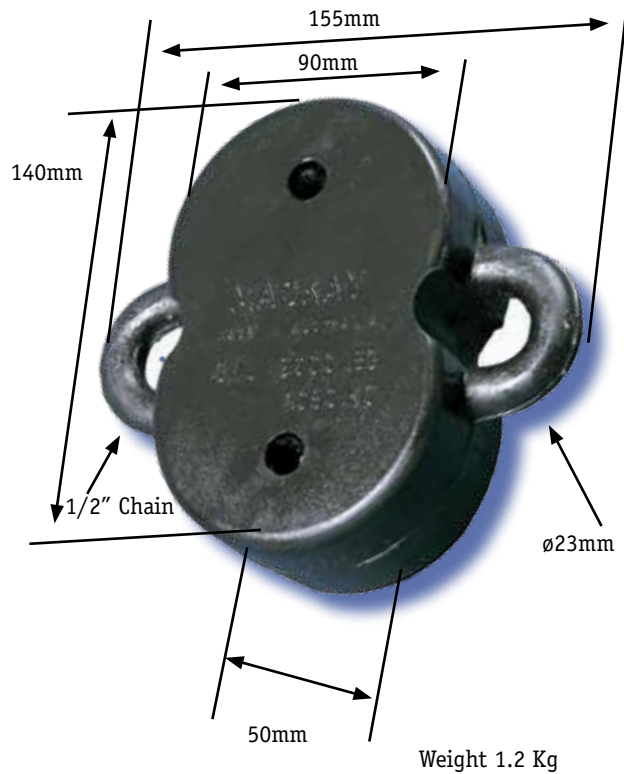
Be sure chain assemblies can absorb heavy shock loads caused by impact and tension. Specify the Mackay Rubber Snubber, a unique device that helps eliminate chain breakage and damage to cargo.

### ENERGY CONTROL

Of shock loads or of steady tension. That is the Mackay Rubber Snubber. Simple, Positive, Maintenance Free; with over 25mm of controlled tension, using a single compact light unit.

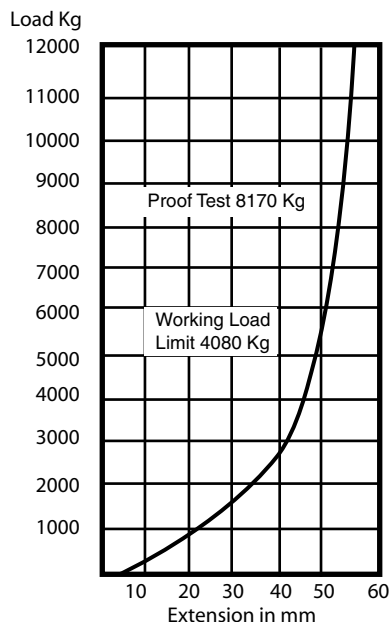
### PROTECT VALUABLE EQUIPMENT

Include the Mackay Rubber Snubber in your tie-down, hoisting or towing chain system. The cushioning of rubber and the toughness of Herc-Alloy Steel Chain ensures safety.

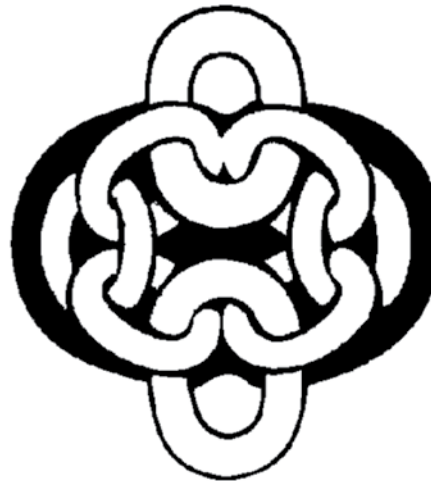


### Ideal for ;

**Truck & rolling stock tie-downs, Tow chains, Mooring lines & anchor chains, Hoist lifting chains, Block and tackle, Wherever shock is a factor. Where steady tension is desired.**



The graph indicates extension of a unit at varying load. Major extension takes place between zero load and the recommended working load. No advantage to overloading. Pretensioning gives protection against slack chain due to temperature changes.



**M194 ; Approved by statutory authorities  
for use in applications that require approval.**

**FLEXI-STRAPS****Rubber Straps & Fasteners**

- REINFORCED ENDS -hooks will not pull out
- QUICK ON/OFF HOOKS - eliminate rope tying
- PLASTIC COATED HOOKS - will not mark paintwork
- NON-STAINING , LONG LIFE RUBBER - weather resistant compound

PART No	LENGTH mm	STRETCH LENGTH mm	WEIGHT kg
FHS9K	230	285	0.08
FHS15K	380	475	0.10
FHS24K	610	765	0.14
FHS31K	785	980	0.16

Add 100mm for Hooks

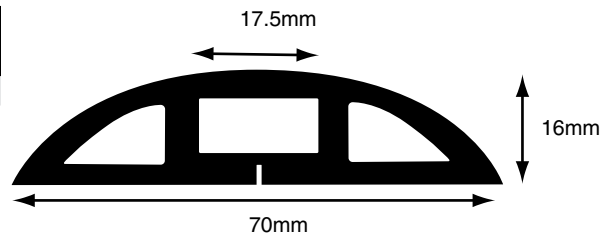
For your protection , Mackay recommend that the use of "Flexi-straps"  
DOES NOT EXCEED the specified stretch as listed.



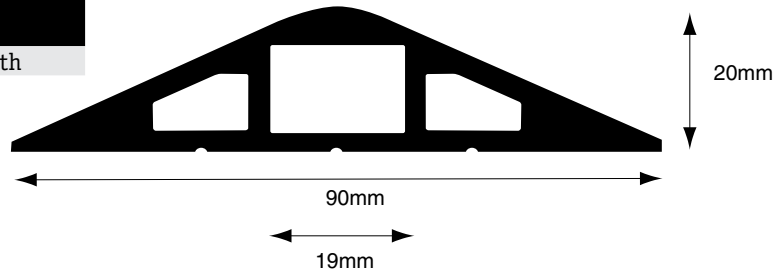
## Cable Protectors

**Mackay**  
**Part #**

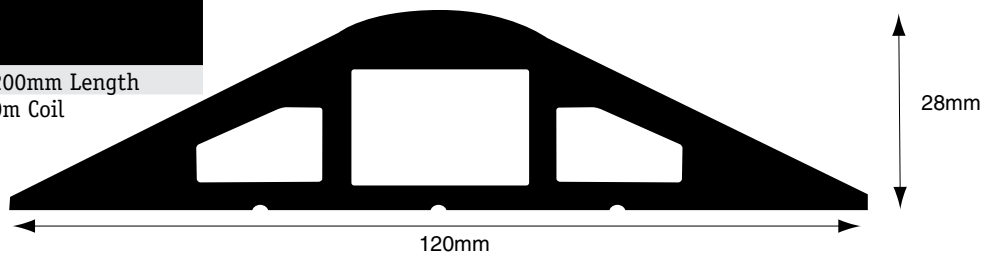
CP70161200 1200mm Length  
 CP7016COIL30 30m Coil


**Mackay**  
**Part #**

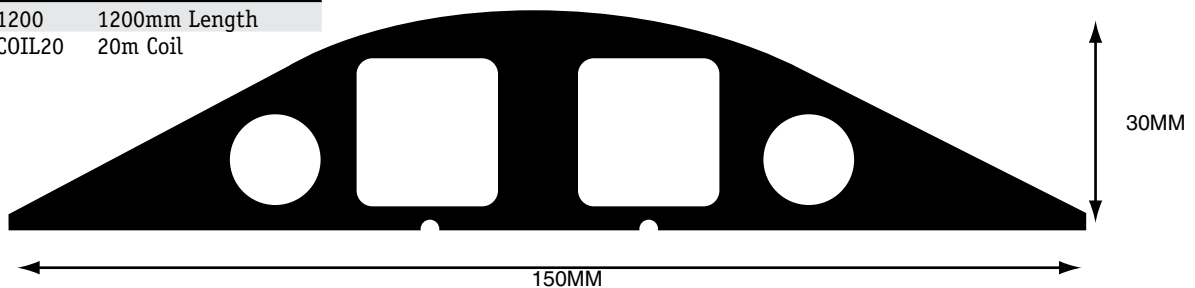
CP90201200 1200mm Length  
 CP9020COIL30 30m Coil


**Mackay**  
**Part #**

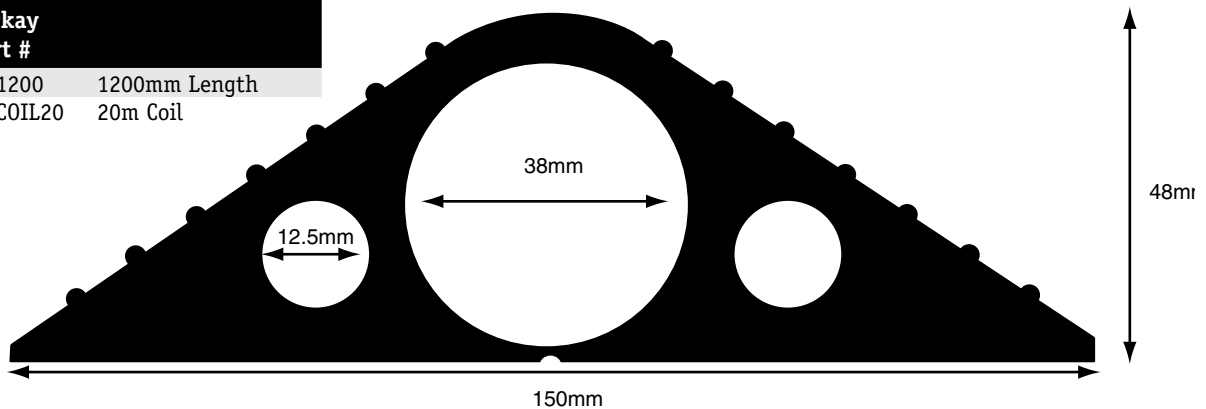
CP120281200 1200mm Length  
 CP12028COIL30 30m Coil


**Mackay**  
**Part #**

CP150301200 1200mm Length  
 CP15030COIL20 20m Coil


**Mackay**  
**Part #**

CP150481200 1200mm Length  
 CP15048COIL20 20m Coil





# Power Transmission Products

## Section 17





## Flexible Coupling

Fractional kW flexible couplings are specially developed couplings whereby torque is transmitted by rubber in shear, resulting in an unusually high degree of flexibility with effective absorption of torsional vibration. These couplings comprise two steel bushes bonded to a high tensile rubber. Having no ungainly projections, they are pleasing in appearance and with no loose parts to handle are easy to install.



### Features

#### Misalignment Accommodation

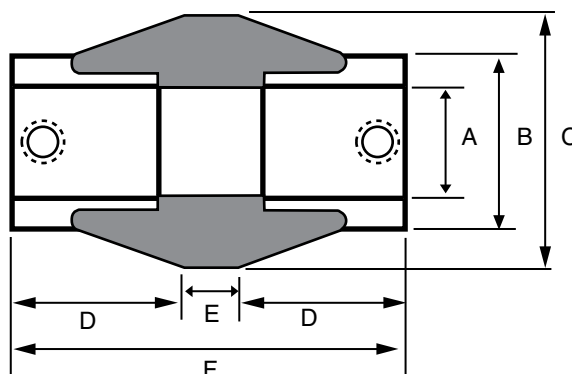
The metal sleeves are so spaced that some angular misalignment is permitted without undue stress either on the bond or in the body of the rubber. Parallel misalignment is also accommodated primarily through the shear stress of the rubber. It is advised, however, that misalignment between drive and driven units be kept to a minimum.

#### Noise Reduction

Shear stressed rubber prevents telegraphic transmission of sound and all such high frequency vibrations - therefore stops gear tooth noise, motor hum, etc., ordinarily transmitted through the driving shaft.



The shaft **must not** extend into space E



PART No.	POWER RATING AT 1440 rpm	MAX TORQUE Nm	A	B	C	D	E	F	SET SCREW	Set Screw Hole Depth	WEIGHT Kg
M13418	0.09kW	0.6	12.7	22	32	21	8	51	1/4 WHIT	9	0.1
M13414	0.19kW	1.26	12.7	28	41	24	16	64	1/4 WHIT	13	0.2
M13412	0.37kW	2.45	15.8	35	46	25	18	68	5/16 WHIT	19	0.3
M13434	0.56kW	3.71	19	38	51	27	19	73	5/16 WHIT	19	0.4

The Mackay couplings are designed to adequately transmit the power as shown at 1440 rpm. The power rating increases with increased rpm.

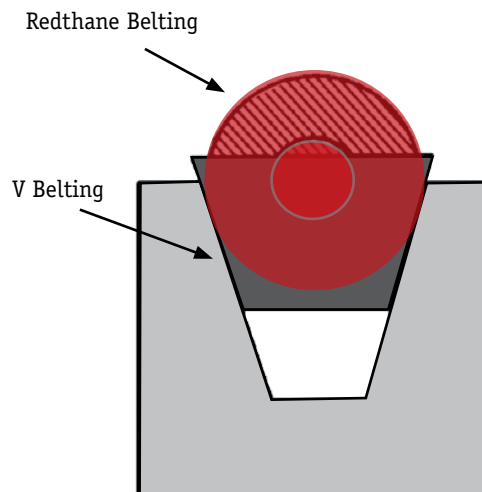


Redthane Vee Belting has proved itself to be an exciting new development in the field of mechanical power transmission, both in terms of reliability and cost saving.

**Mackay Polyurethane Vee Belting - it's so different it really saves money!**

## FEATURES:

- Replaces almost all types of conventional belting i.e. A, M and B section vee belts, link belting and all round section belts.
- Precision manufactured in the form of a Polyurethane based tube offering unique qualities of strength, durability, resistance to oils and abrasion, moisture, radiation and chemicals.
- Supplied in a continuous length. Required length is simply cut off and fastened internally (as illustrated) to give smooth, trouble free running. No motor/pulley adjustments are necessary before or after fitting.
- Reduces fitting time dramatically e.g. Conventional Belting on a Holbrook Centre Lathe - 155 minutes; RVB - 20 minutes. Crucial savings in terms of machine down time, direct labour, production losses etc.
- Cuts belt wastage to a minimum. When just one portion of the belt is damaged, that portion can be cut and replaced with a new section. No question of scrapping the whole belt.
- Provides the complete answer where stocks are concerned. Instead of having to stock up with countless different vee belts, just one or more RVB coils will supply all your needs with the minimum of time and space taken up.



**The maximum operating temperature for Redthane is 80 Degrees Celsius**

Foot per Minute	A Section		B Section	
	Minimum Pulley Dia.	H.P. Rating	Minimum Pulley Dia.	H.P. Rating
1000	4.0"	0.60	5.0"	1.00
1200	4.0"	0.60	5.0"	1.35
1400	4.0"	0.95	5.0"	1.60
1600	4.0"	1.05	5.0"	1.90
1800	4.0"	1.20	5.0"	2.07
2000	4.6"	1.25	6.0"	2.30
2200	4.6"	1.35	6.0"	2.45
2400	4.6"	1.45	6.0"	2.75
2600	4.6"	1.55	6.0"	2.90
2800	4.6"	1.60	6.0"	3.00
3000	4.6"	1.65	6.0"	3.15
3200	5.0"	1.70	7.0"	3.25
3400	5.0"	1.75	7.0"	3.33
3600	5.0"	1.80	7.0"	3.40
3800	5.0"	1.82	7.0"	3.45
4000	5.0"	1.85	7.0"	3.50

## Specifications

PART No.	DIA mm	APPROX MIN. PULLEY DIA.	COIL LENGTH Metres	BELT FASTENERS	SECTIONS REPLACED	COIL WEIGHT Kg
RB12-7	12.7	150	25	R12-7F	B Section	3.6
RB10-2	10.2	100	50	R10-2F	A & Some M Sections	4.4
RB7-9	7.9	75	50	R7-9F	Most M Sections	2.7
RB6-4	6.4	60	50	R6-4F	Low Power Drives	1.8
RB4-8	4.8	25	100	R4-8F	Low Power Drives	2.0

## HOW TO MAKE ENDLESS REDTHANE BELTING

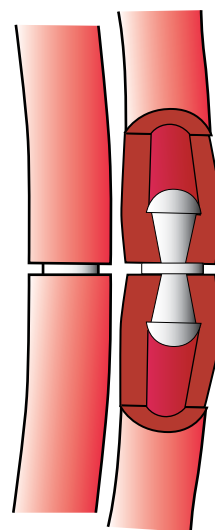
### Using The Patented Internal Fastener;

This method can be carried out on the machine if necessary.

1. Check the length of the belting required , reduce the measurment by 7%(70mm per metre) and cut.
2. Using long nose pliers insert the fastener into the tube at an angle and "walk" it in until the fastener is completely home , taking care NOT to damage the flange.
3. Insert the other end of the fastener into the tube's other bore and using the same principle as before fit it in to form an endless belt.
4. Stretch onto the pulleys.

### Using Heat Welding;

1. Cut the belt 7% shorter than required , making sure the ends are square and flat.
2. Heat a flat element to 300 degrees Celsius plus or minus 40 degrees (any flat , hot surface is suitable).
3. Press both ends of the belt onto the element and melt back 1mm.
4. Press the melted ends together squarely (a V block can be used as a guide) and hold firmly for approximately one minute. Do not squeeze the molten Redthane away from the joining faces.
5. Cool thoroughly.
6. Trim off the surplus material around the joint using a sharp knife or grinding wheel.
7. Wait five minutes before stretching the belt over the pulleys.

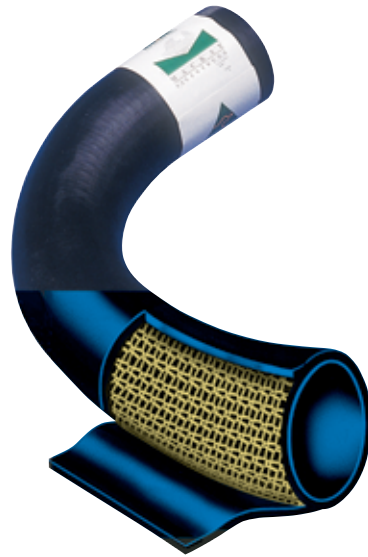


- **EASILY JOINED**
- **HIGH PULLEY GRIP**
- **SHOCK ABSORBENT**
- **UNAFFECTED BY LUBRICANT**

*Redthane belting is generally considered non-toxic, but has not been approved by the U.K. Drug and Food Administration.*

# Section 18

## Hoses



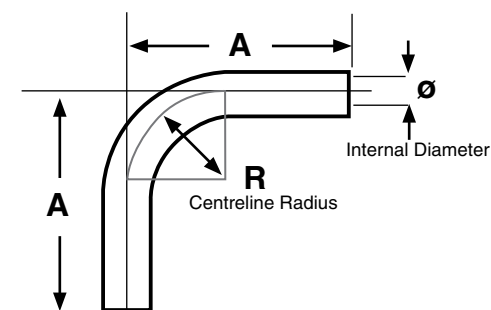
## 90° HOSE BENDS

Mackay Universal Hose bends are available in two separate specifications, one for water and the other for fuel applications. It is important to select the correct specification for your application.

Hose Bends UHB8 - UHB57 are manufactured from heat and ozone resistant EPDM to Spec. SAE J20R4 Class D-1 and are not suitable for the conveyance of petroleum products.

For Fuel applications use part numbers UHB8N to UHB57N which are manufactured from Fuel resistant Nitrile.

Please note that fuel application UHB's are made to customer order only with MOQ;s as below.



All dimensions in mm

### WATER APPLICATIONS Only

INTERNAL DIAMETER	PART NO.	LENGTH	
		A	R
8	UHB8-300	300	50
10	UHB10-300	300	50
13	UHB13	105	50
13	UHB13-300	300	50
16	UHB16	105	50
16	UHB16-300	300	50
19	UHB19	105	50
19	UHB19-300	300	50
25	UHB25	105	50
25	UHB25-300	300	50
31	UHB31	120	60
31	UHB31-300	300	60
38	UHB38	120	60
38	UHB38-300	300	60
44	UHB44	140	70
44	UHB44-300	300	70
50	UHB50	140	70
50	UHB50-300	300	70
57	UHB57	170	85
57	UHB57-300	300	85
63	UHB63	170	95
63	UHB63-300	300	95

Outer cover formulated to provide good resistance to oil, heat abrasion and the effects of ozone



High grade tube compound to withstand the effects of coolant additives and fuels (nitrile version)  
Also offers better resistance to electrochemical degradation.

Tough Rayon or Kevlar lock-stitch knitting for maximum burst pressure

### FUEL APPLICATIONS Only

Non Stocked Product Made to customer order, MOQ Applies

INTERNAL DIAMETER	PART NO.	LENGTH		MOQ
		A	R	
8	UHB8-300N	300	50	300
10	UHB10-300N	300	50	300
13	UHB13N	105	50	850
13	UHB13-300N	300	50	300
16	UHB16N	105	50	850
16	UHB16-300N	300	50	300
19	UHB19N	105	50	400
19	UHB19-300N	300	50	150
25	UHB25N	105	50	100
25	UHB25-300N	300	50	300
31	UHB31N	120	60	850
31	UHB31-300N	300	60	300
38	UHB38N	120	60	100
38	UHB38-300N	300	60	300
44	UHB44N	140	70	100
44	UHB44-300N	300	70	300
50	UHB50N	140	70	nil
50	UHB50-300N	300	70	nil
57	UHB57N	170	85	100
57	UHB57-300N	300	85	300

## UHB Trade Pack - Part Number UBAG1

Pack contains:

PART NO.	I.D.	QTY
UHB31	31mm (1 1/4")	1
UHB31-300/45	31mm (1 1/4")	1
UHB38	38mm (1 1/2")	1
UHB38-300/45	38mm (1 1/2")	1
UHB44	44mm (1 3/4")	1
UHB44-300/45	44mm (1 3/4")	1
UHB50	50mm (2")	1
UHB50-300/45	50mm (2")	1

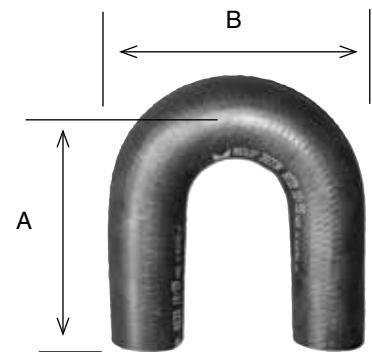
*Water Applications Only*



## U Shaped Universal Hose

ID	PART NO.	LENGTH	
		A	B
38mm (1 1/2")	USH38	145	155

*Water Applications Only*



## 45° Hose Bends

INTERNAL DIAMETER	PART NO.
31mm (1 1/4")	UHB31-300/45
38mm (1 1/2")	UHB38-300/45
44mm (1 3/4")	UHB44-300/45
50mm (2")	UHB50-300/45

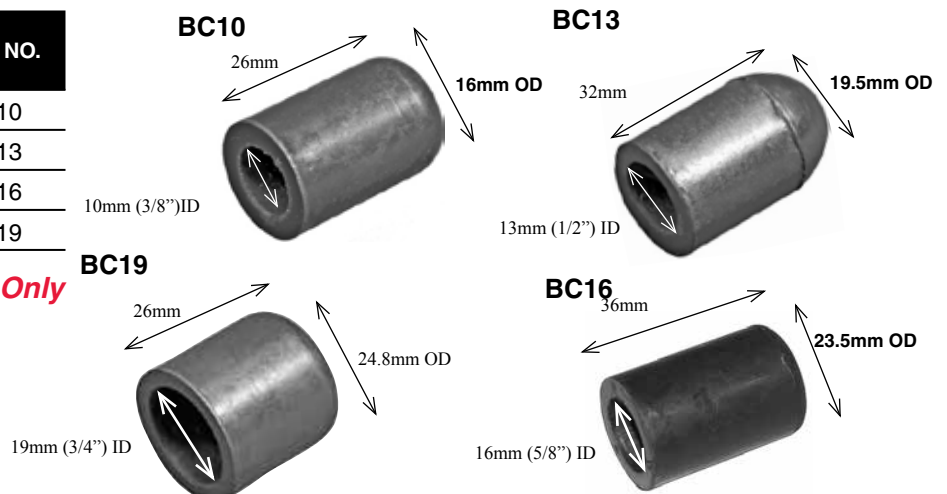
*Water Applications Only*



## Blanking Caps

INTERNAL DIAMETER	PART NO.
10mm (3/8")	BC10
13mm (1/2")	BC13
16mm (5/8")	BC16
19mm (3/4")	BC19

*Water Applications Only*



## STRAIGHT HOSE

Mackay General Purpose Straight Hose SHW19 to SHW57 is manufactured from good quality heat, water and ozone resistant EPDM with rayon knitted reinforcement, that conforms to Spec. SAE J20R4 Class D-1. Minimum burst pressure range - 0.62 to 1.03 MPa depending on ID size.

**CAUTION:** Not suitable for Oil, Fuel or Brake Fluid applications.

Sizes SHF51 to SHF57 are manufactured from Nitrile entirely and meet Spec SAE30R6 and will withstand a working temperature of 100 degrees C. and a pressure of 0.11MPa (16PSI). These hoses are suitable for **Low Pressure fuel & Oil applications only** and are recommended for fuel filler applications.

**CAUTION:** Not suitable for use as a coolant hose.

## Universal Hose Springs

Galvanised springs for use in non-standard applications where the hose may be more susceptible to vacuum collapse.

To insert spring into hose lubricate with soapy water.



I.D.	PART NO.	LENGTH	APPLICATION
19mm	SHW19	1000mm	Water Only
22mm	SHW22	1000mm	
25mm	SHW25	1000mm	
28mm	SHW28	1000mm	
32mm	SHW32	1000mm	
35mm	SHW35	1000mm	
38mm	SHW38	1000mm	
41mm	SHW41	1000mm	
44mm	SHW44	1000mm	
48mm	SHW48	1000mm	
51mm	SHW51	1000mm	
54mm	SHW54	1000mm	
57mm	SHW57	1000mm	
63mm	SHW63	1000mm	Fuel Only
38mm	SHF38	1000mm	
51mm	SHF51	1000mm	
54mm	SHF54	1000mm	
57mm	SHF57	1000mm	
63mm	SHF63	1000mm	

PART NO.	SPRING OD (FITS HOSE ID)	SPRING LENGTH
CHS53G	35	287
CHS45G	42	254
CHS55G	42	387
CHS56G	42	304
CHS42G	48	381

## EMISSION CONTROL, FUEL VAPOUR & VACUUM HOSE

Mackay EFV Hose is made from fuel resistant nitrile with HYPALON covering and is heat and ozone resistant.



ID	PART NO.	LENGTH	PACK
3mm (7/64")	EFV1003x2	2 metres	Bag
	EFV1003x10	10 metres	Box
	EFV1003x20	20 metres	Box
4mm (5/32")	EFV1004x2	2 metres	Bag
	EFV1004x10	10 metres	Box
	EFV1004x20	20 metres	Box
5.5mm	EFV10055x2	2 metres	Bag
	EFV10055x10	10 metres	Box
6mm (1/4")	EFV1006x2	2 metres	Bag
	EFV1006x10	10 metres	Box
	EFV1006x20	20 metres	Box



## HEATER HOSE

Mackay Heater Hose is manufactured from heat and ozone resistant EPDM meeting or exceeding Spec. **SAE 20R3 Class D-1**. Burst pressure (min) 250 PSI, Working pressure (max) 40PSI, Working Temp to 110°

**CAUTION :** *Not suitable for Oil, Fuel or Brake Fluid applications.*

INSIDE DIAMETER	PART NO.	LENGTH	PACK
8mm (5/16")	HH82	2 metres	Plastic Bag
	HH810	10 Metres	Box
	HH820	20 metres	Box
	HH850	50 metres	Coil
9.5mm Thin Wall thickness (3mm)	HH10TWX2 *	2 metres	Plastic Bag
	HH10TWX20	20 metres	Box
10mm (3/8")	HH102	2 metres	Plastic Bag
	HH1010	10Metres	Box
	HH1020	20 metres	Box
	HH1050	50 metres	Coil
12.7mm (1/2")	HH1272	2 metres	Plastic Bag
	HH12710	10 metres	Box
	HH12720	20 metres	Box
	HH12750	50 metres	Coil
15.9mm (5/8")	HH1592	2 metres	Plastic Bag
	HH15910	10 metres	Box
	HH15920	20 metres	Box
	HH15940	40 metres	Spool
17.5mm (11/16")	HH1752	2 metres	Plastic Bag
	HH17510	10 metres	Box
	HH17520	20 metres	Box
19mm (3/4")	HH192	2 metres	Plastic Bag
	HH1910	10 metres	Box
	HH1920	20 metres	Box
25.4mm (1")	HH2545	5 metres	Coil



\* Note- can use SHW9.5X2

## FUEL HOSE

Mackay Fuel Hose is made from petroleum resistant rubber to conform to Spec. SAE J30 R6. This hose is suitable for Low Pressure use with leaded and unleaded petrol, diesel/fuel, lubricating oil and fuel vapour.

**CAUTION :** *Not suitable for Fuel Injection, Alcohol Fuels, Coolant or Brake Fluid applications*  
*Fuel Hoses should be shielded and routed away from Exhaust Manifolds / Pipes.*

ID	PART NO	LENGTH	PACK	BURST PRESSURE (MIN)	WORKING PRESSURE (MAX)
4mm (5/32")	FH1004x2	2 metres	Card/Skin Pack	1720Kpa (250 PSI)	340Kpa (50 PSI)
	FH1004x10	10 metres	Box		
	FH1004x20	20 metres	Box		
	FH1004x50	50 metres	Coil		
5mm (3/16")	FH1005x2	2 metres	Card/Skin Pack	1720Kpa (250 PSI)	340Kpa (50 PSI)
	FH1005x10	10 metres	Box		
	FH1005x20	20 metres	Box		
	FH1005x50	50 metres	Coil		
6mm (1/4")	FH1006x2	2 metres	Card/Skin Pack	1720 Kpa (250 PSI)	340 Kpa (50 PSI)
	FH1006x10	10 metres	Box		
	FH1006x20	20 metres	Box		
	FH1006x50	50 metres	Coil		
8mm (5/16")	FH1008x2	2 metres	Card/Skin Pack	1720 Kpa (250 PSI)	340 Kpa (50 Psi)
	FH1008x10	10 metres	Box		
	FH1008x20	20 metres	Box		
	FH1008x50	50 metres	Coil		
10mm (3/8")	FH1010x2	2 metres	Card/Skin Pack	1200 Kpa (174 PSI)	240Kpa (35 PSI)
	FH1010x10	10 metres	Box		
	FH1010x20	20 metres	Box		
	FH1010x50	50 metres	Coil		
13mm (1/2")	FH1013x2	2 metres	Card/Skin Pack	1200 Kpa (174 PSI)	240 Kpa (35 PSI)
	FH1013x10	10 metres	Box		
	FH1013x20	20 metres	Box		
	FH1013x50	50 metres	Coil		



## FUEL HOSE (Submersible - In-Tank Applications)

Mackay Submersible Fuel Hose is designed for constant fuel contact non-pressure use inside the tank; pump suction and recirculated, returned fuel. Made from Nitrile PVC and reinforced with Aramide fibre. This superior fuel hose is suited for In-Tank applications. Conforms to spec SAE J30 R10.

**CAUTION :** *It is not suitable for Fuel Injection or Brake Fluid applications.*

ID	PART NO	LENGTH	PACK
8mm	FHIT8x1	1 metre	Bag
	FHIT8x20	20 metre	Box
10mm	FHIT10x20	20 metre	Box



## POWER BRAKE VACUUM HOSE

Mackay Power Brake Vacuum Hose is a light duty hose designed for vacuum brake applications only. Mackay Brake Vacuum hose conforms to specification SAE J 1403L.

**CAUTION:** Not suitable for Brake Fluid Applications.

ID	PART NO.	LENGTH	PACK
8.7mm(11/32)	BVH902	2 metres	Bag
	BVH905	5 metres	Bag
	BVH910	10 metres	Box
12mm(15/32)	BVH1202	2 metres	Bag
	BVH1205	5 metres	Bag
	BVH1210	10 metres	Box

## FUEL INJECTION HOSE

Mackay Fuel Injection Hose consists of a Fluoroelastomer inner lining which gives protection against petrol, oxidised petrol, diesel fuel, lubricating oil, fuel vapour as well as ethanol extended petrol (**Suitable for Ethanol blends up to E85 and up to 15% Methanol**). This is covered by a tube to resist chemical attack and reinforced with braided yarn. This, in turn, is covered by an outer layer of HYPALON which is heat and ozone resistant. Mackay Fuel injection hose conforms to specification SAE J 30R9. Burst pressure (Min.) 6.2Mpa (900 psi)

**CAUTION:** Not suitable for Coolant or Brake Fluid applications

ID	PART NO.	LENGTH	PACK
6.3 mm (1/4)	FIH6502	2 metres	Bag
	FIH6505	5 metres	Bag
	FIH6510	10 metres	Box
8 mm (5/16)	FIH802	2 metres	Bag
	FIH805	5 metres	Bag
	FIH810	10 metres	Box
9.5 mm (3/8)	FIH9502	2 metres	Bag
	FIH9505	5 metres	Bag
	FIH9510	10 metres	Box

## TRANSMISSION COOLER & POWER STEERING RETURN HOSE

Mackay Transmission Cooler and Power Steering Return Hose is formulated from compounds based on the Company's OE experience. The hose is heat resistant to 135 degrees Celsius and conforms to specification SAE J 189. Burst pressure (Min.) 6.9Mpa (1000PSI)

**CAUTION:** Not suitable for Coolant, Fuel or Brake Fluid applications

ID	PART NO.	LENGTH	PACK
8 mm (5/16)	TPH802	2 metres	Bag
	TPH805	5 metres	Bag
	TPH810	10 metres	Box
9.5mm(3/8)	TPH1002	2 metres	Bag
	TPH1005	5 metres	Bag
	TPH1010	10 metres	Box

## RADIATOR OVERFLOW HOSE

Low pressure non reinforced hose made from EPDM, providing resistance to coolant additives and heat and ozone.

Suitable for radiator (water) overflow applications.

ID	PART NO.	LENGTH	PACK
8mm (5/16)	OFH801	1 metre	Bag
	OFH810	10 metres	Box
	OFH820	20 metres	Box
10mm (3/8)	OFH1001	1 metre	Bag
	OFH1010	10 metres	Box
	OFH1020	20 metres	Box

## WIPER TUBING

Mackay Wiper Tubing is manufactured from EPDM which is resistant to ozone, heat and water swell. The tubing meets Spec. SAE J1037. This tubing is **not** suitable for conveying petroleum products.

ID	PART NO.	LENGTH	PACK
3.2mm	WT3.2X2	2 metres	Bag
	WT3.2X10	10 metres	Box
4.8mm	WT4.8X2	2 metres	Bag
	WT4.8X10	10 metres	Box
6.3mm	WT6.3X2	2 metres	Bag
	WT6.3X10	10 metres	Box

## MackayFlex™

MackayFlex™ is a flexible water hose (Not suitable for oil, fuel applications) designed to suit universal Automotive and Industrial applications.

MackayFlex™ hoses can bend and flex in almost any direction and is an ideal replacement for unusual / emergency applications or permanent use. Made from quality EPDM rubber, with textile reinforcement and rubber encapsulated steel inner spring construction.

Suitable for Water Applications

Working Temperature: -40 degrees C To +125 degrees C.

Burst Pressure: According to SAEJ20R5 standards

### Part Number Identification system:

eg. **Single ID**

25254F = 25mm ID X 254mm Length

**Dual ID**

3844558F = 38mm ID on one end, 44mm ID other end x 558mm Length.



MACKAYFLEX™ Single ID		
MackayFlex #	ID (mm)	Length (mm) (+20 /-0 mm)
25254F	25	254
25406F*	25	406
25508F	25	508
25609F	25	609
32304F*	32	304
32406F*	32	406
32508F*	32	508
32609F	32	609
35406F	35	406
38355F*	38	355
38406F*	38	406
38457F*	38	457
38508F*	38	508
44355F*	44	355
44406F*	44	406
44457F*	44	457
44609F	44	609
51203F	51	203
51355F*	51	355
51406F*	51	406
51609F	51	609
57254F	57	254
57355F*	57	355
57457F*	57	457
57558F	57	558
57660F	57	660
57920F	57	920
63254F	63	254
63355F*	63	355
63457F	63	457
70254F	70	254
70355F*	70	355
70457F	70	457
70558F	70	558
76254F	76	254
76355F*	76	355
76457F	76	457
76558F	76	558

MACKAYFLEX™ Dual ID			
MackayFlex #	ID 1 (mm)	ID 2 (mm)	Length (mm) (+20 /-0 mm)
3238304F	32	38	304
3238406F	32	38	406
3538304F	35	38	304
3538406F	35	38	406
3844355F	38	44	355
3844457F	38	44	457
3844558F	38	44	558
4451304F	44	51	304
4451406F	44	51	406
5157304F	51	57	304
5157406F	51	57	406
5763304F	57	63	304
5763406F	57	63	406
6370304F	63	70	304
6370406F	63	70	406
7076304F	70	76	304
7076406F	70	76	406

### MACKAYFLEX™ Merchandiser MFM2

The MackayFlex™ Hose Merchandiser helps you easily display the top 18 MackayFlex™ Hoses.

The Merchandiser includes a 18 hook rack (HR1), Header board and the 18 most popular MackayFlex hoses.

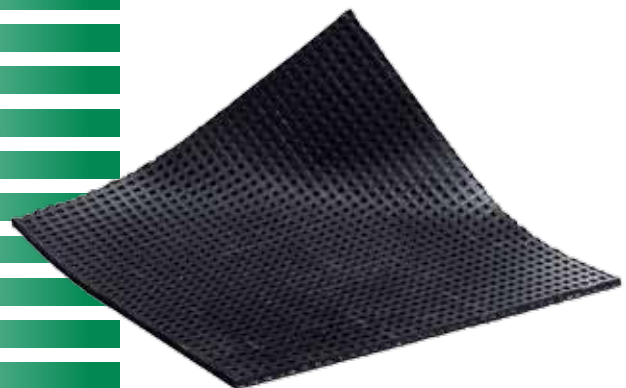


**\* Hoses included with Merchandiser (1 of each)**

*All Dimensions Nominal*

# Miscellaneous

## Section 19



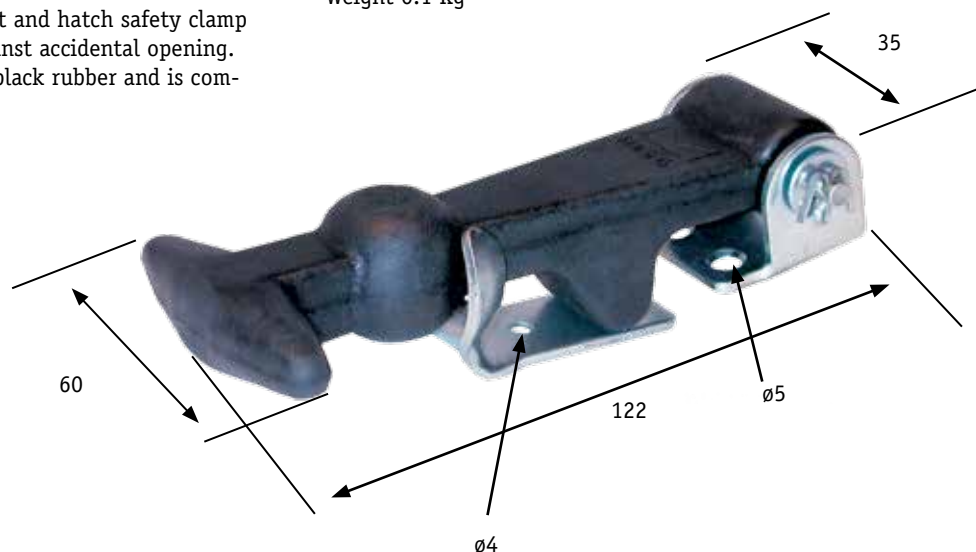
## Machinery Mounting Pad

### Bonnet Clamp

A very strong and rugged bonnet and hatch safety clamp specially designed to secure against accidental opening. Stoutly moulded in heavy duty black rubber and is complete with mounting plates.

**A1177**

Weight 0.1 Kg



### FLEXI-STRAPS

#### Rubber Straps & Fasteners



- REINFORCED ENDS -hooks will not pull out
- QUICK ON/OFF HOOKS - eliminate rope tying
- PLASTIC COATED HOOKS - will not mark paintwork
- NON-STAINING , LONG LIFE RUBBER - weather resistant compound

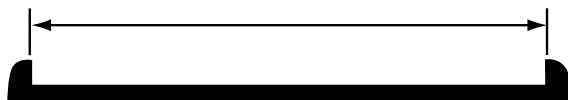
PART No	LENGTH mm	STRETCH LENGTH mm	WEIGHT kg
FHS9K	230	285	0.08
FHS15K	380	475	0.10
FHS24K	610	765	0.14
FHS31K	785	980	0.16

Add 100mm for Hooks

For your protection , Mackay recommend that the use of "Flexi-straps" DOES NOT EXCEED the specified stretch as listed.

## Bracket Straps

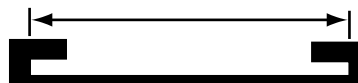
Anti-rattle and clamping strap applications



Part No.	Width	Length
MEBS25	25	50m
MEBS50	50	50m
MEBS52	52	50m
MEBS75	75	50m

## Tank Straps

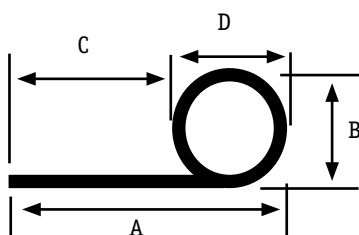
Anti-rattle and clamping strap applications



Part No.	Width	Length
METS20	20	100m
METS25	25	100m
METS40	40	100m
METS50	50	100m
METS75	75	100m
METS100	100	100m

## Door Seal P Section

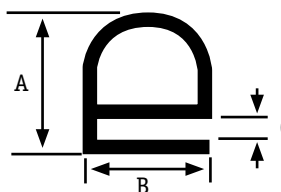
Dust and moisture sealing strip. Also suited to anti-rattle applications



Part No.	STD Length	A	B	C	D
MEPS100	50 mtrs	38	14	24	14
MEPS104	50 mtrs	30	13	20	10
MEPS105	50 mtrs	35	13	22	13
MEPS107	50 mtrs	32	10	20	12
MEPS109	50 mtrs	30	20	14	16

## Door Seals E Section

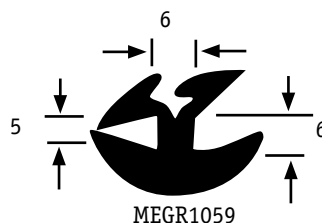
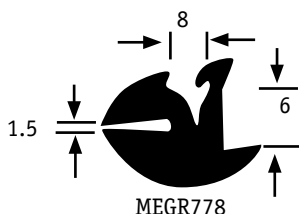
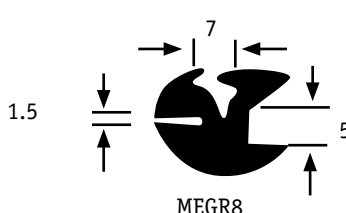
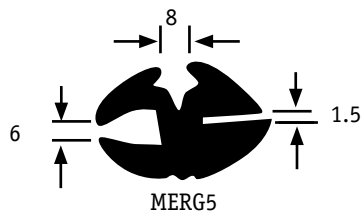
Dust and moisture sealing strip. Also suited to anti-rattle applications



Part No.	STD Length	A	B	C
MEES5	50mtrs	9	12	1.5
MEES11	50mtrs	15	15	3
MEES12	50mtrs	13	13	3
MEES13	50mtrs	18	18	3
MEES15	50mtrs	19	22	2.5
MEES20	30mtrs	20	20	3
MEES25	30mtrs	50	45	6

## Glazing Rubber Extrusions

For securing glass and plastic in sheet metal



Part No.	STD Length
MEGR5	30 mtrs
MEGR8	30 mtrs
MEGR778	30 mtrs
MEGR1059	30 mtrs
MEGL2	30 mtrs

## Sponge Extrusions

### EPDM Rubber Sponge Strip



available in 30 metre lengths

Part No.	Description	Dunlop	Ormiston
MSE1010	10x10	A187	S186
MSE105	10x5	A36	S152
MSE106	10x6	A23	S141
MSE1111	11x11	A40	S154
MSE1210	12x10	A33	S150
MSE1212	12x12	A56	S512
MSE1310	13x10		
MSE1313	13x13		
MSE133	13x3	A42	S156
MSE135	3x5	A28	S146
MSE136	13x6	A10	S130
MSE1613	16x3	A63	S549
MSE1616	16x16	A62	S162
MSE1710	17x10	A43	
MSE175	17x5	A11	S131
MSE1910	19x10		S157
MSE1913	19x13	A57	S550
MSE1919	19x19	A55	S400
MSE196	19x6	A64	S163
MSE203	20x3		
MSE2213	22x13	A18	S136
MSE2222	22x22	A21	S139
MSE251.5	25x1.5		S166
MSE2510	25x10	A209	S321
MSE2513	25x13	A17	S135
MSE2519	25x19	A185	S529
MSE2525	25x25		
MSE253	25x3	A66	S165
MSE255	25x5	A65	S164
MSE256	25x6	A77	S179
MSE3213	32x13		
MSE3219	32x19		
MSE3225	32x25	A72	S169
MSE323	32x3	A69	S167
MSE325	32x5		S325
MSE3813	38x13	A70	S168
MSE3819	38x19		S381
MSE3825	38x25		S382
MSE383	38x3	A51	S160
MSE385	38x5	A141	S526
MSE386	38x6		S602
MSE407	40x7		
MSE5013	50x13	A59	S551
MSE5025	50x25		
MSE503	50x3		
MSE5030	50x30		
MSE505	50x5		
MSE506	50x6		S183
MSE6012	60x12		
MSE607	60x7		
MSE65	6x5		S544
MSE66	6x6		
MSE7512	75x12		

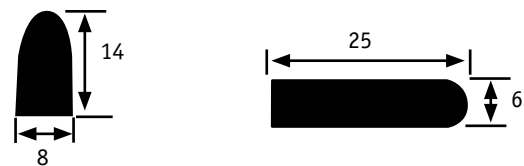
### EPDM Rubber Sponge Cord



available in 30 metre lengths

Part No.	Description	Dunlop	Ormiston
MSEC4.5	4.5mm		S548
MSEC5	5mm		
MSEC6	6mm		S606
MSEC7.5	7.5mm		
MSEC8	8mm		S617
MSEC8.5	8.5mm		
MSEC10	10mm	A35	S151
MSEC12.7	12.7mm	A19	S137
MSEC15	15mm		
MSEC16	16mm		
MSEC17	17mm		
MSEC19	19mm		S158
MSEC22	22mm		
MSEC25	25mm	A61	S161

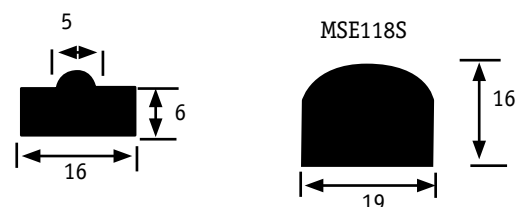
### EPDM Rubber Sponge Bull Nose Strip



available in 30 metre lengths

Part No.	Description mm
MSE108MR	10x8
MSE256BNOSE	25x6

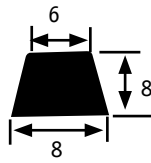
### EPDM Rubber Sponge Bulb Strip



available in 30 metre lengths

Part No.	Description	Dunlop	Ormiston
MSE118S	19x16	A118	S158
MSE127S	16x6 mm		S127
MSE13S	12x8 mm	A13	
MSE5S	16x8 mm	A5	

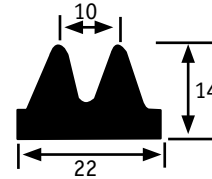
## EPDM Rubber Sponge Single pyramid Strip



available in 30 metre lengths

Part No.	Description	Dunlop	Ormiston
<b>MSE145S</b>	8x8x6mm	A27	

## EPDM Rubber Sponge Double Pyramid Strip

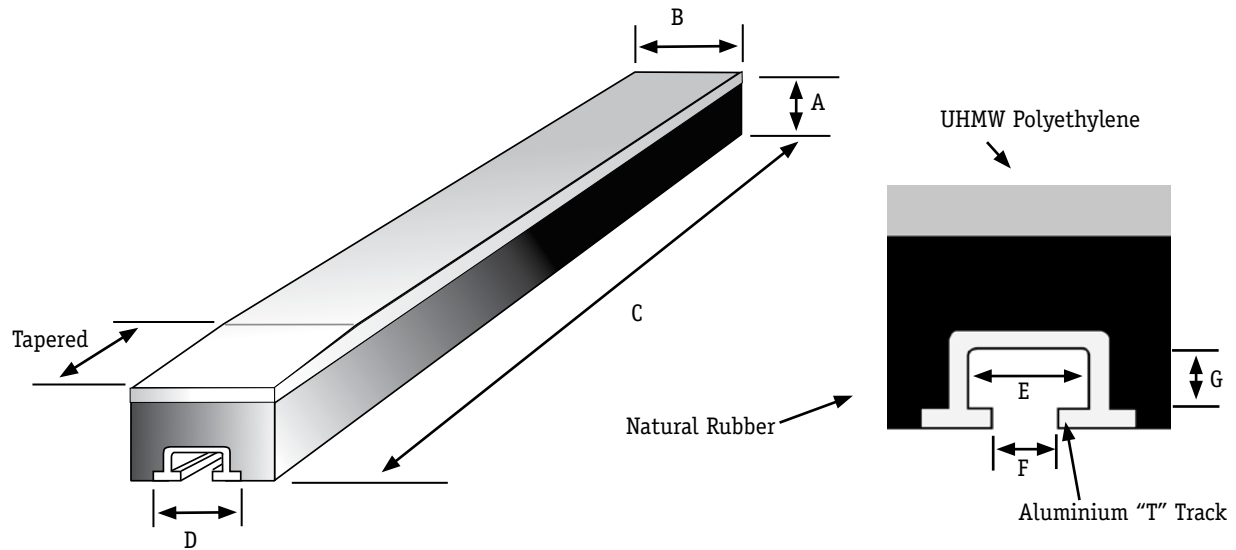


available in 30 metre lengths

Part No.	Description	Dunlop	Ormiston
<b>MSE147S</b>	22x14mm	A29	S147

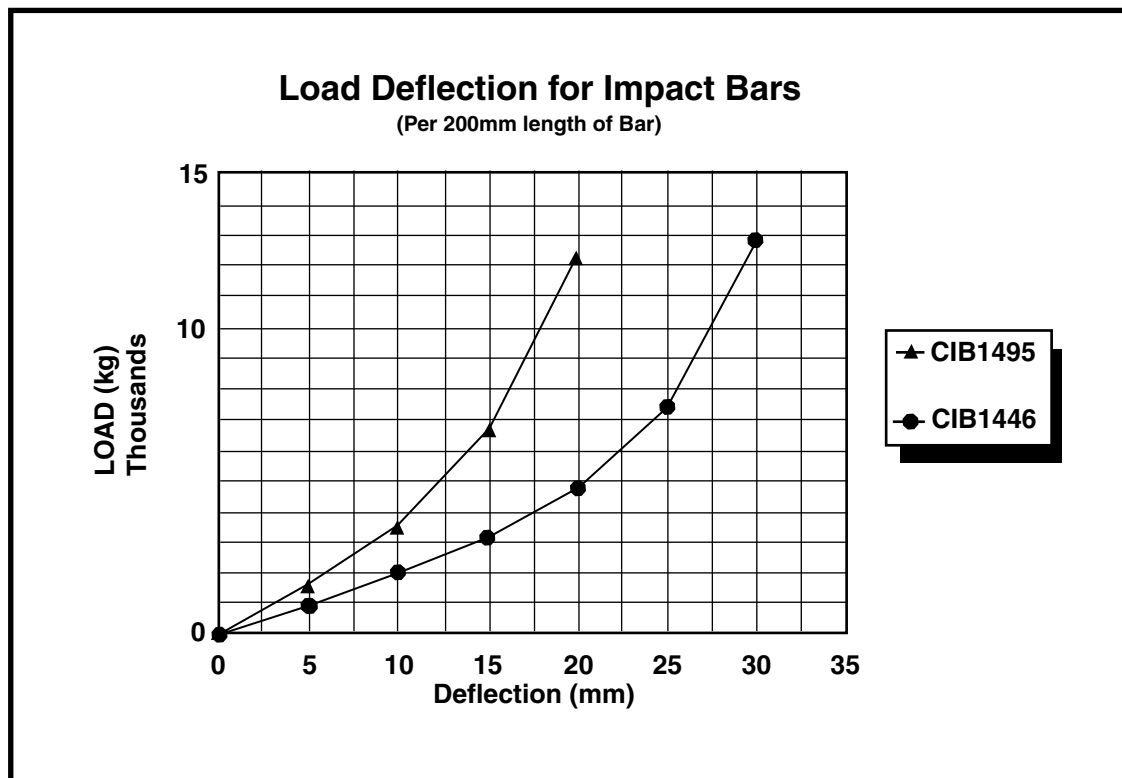
## Impact Bars

Conveyor impact bars are designed to support loading and transfer points. Available in four sizes, these resilient bars are topped with Polyethylene offering a low friction interface with conveyor belts. Impacting energy is absorbed and dissipated through the rubber body.



Part No	A	B	C	D	E	F	G
	Length						
CIB1295	75	100	1200	95	57	22	12
CIB1495	75	100	1400	95	57	22	12
CIB1246	75	100	1200	46	27	14	8
CIB1446	75	100	1400	46	27	14	8
*LBA1001001000-J	100	100	1000	95	57	22	12

*\*Impact Bar only (no Polyethylene top section)*





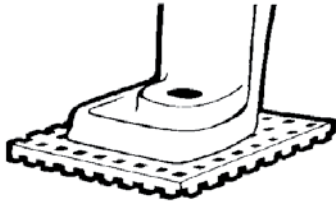
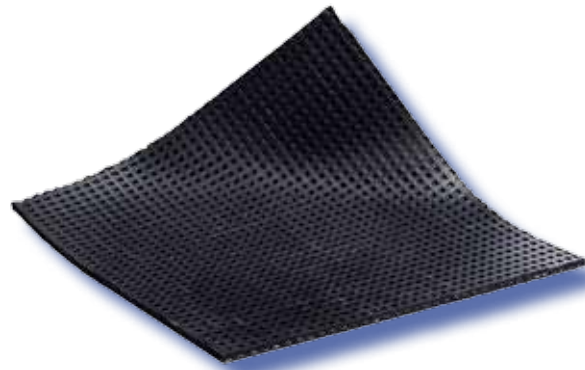
## M164

The **QUALITY** material for effective control of machinery vibration , shock and acoustic noise.

"Similar "products may not be suitable for use in and around oil and greases

OIL-RESISTANT NEOPRENE

Pad weight 1.7Kgs



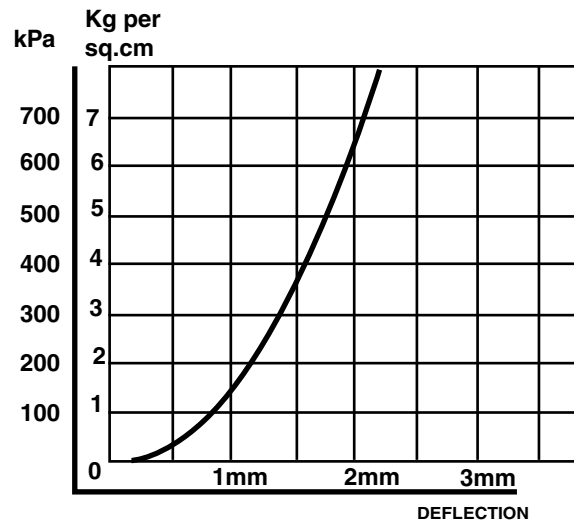
When installing a M164 pad an overlay of 6mm around the feet of the machine should be allowed for.

### MULTIPLE LAYERS:

Where it is required to obtain increased deflection at the same kg/sq.cm. the M164 pad can be stacked in layers but, where more than two layers are used , separate each layer with a metal shim plate of 1.5 to 2mm thickness. if several layers are required , the height of the stack should be less than the length or width.



### LOADING

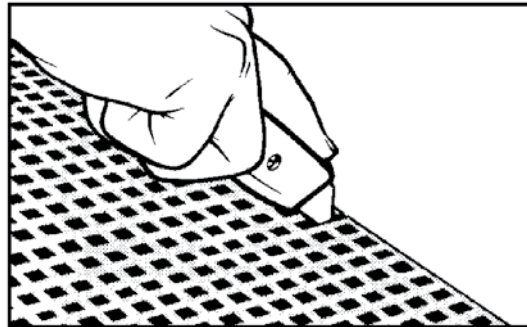
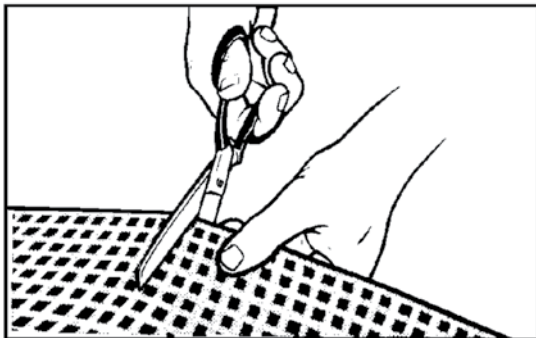


### DEFLECTION GRAPH

For optimum operation , the M164 pad should be loaded at 3.5 kg/sq.cm.(50psi) , but it is suitable for a load rating from 0.7 to 4.2 kg/sq.cm.

When used with impact type machinery such as punch presses, the pad should be loaded at 1.8 kg/sq.cm.

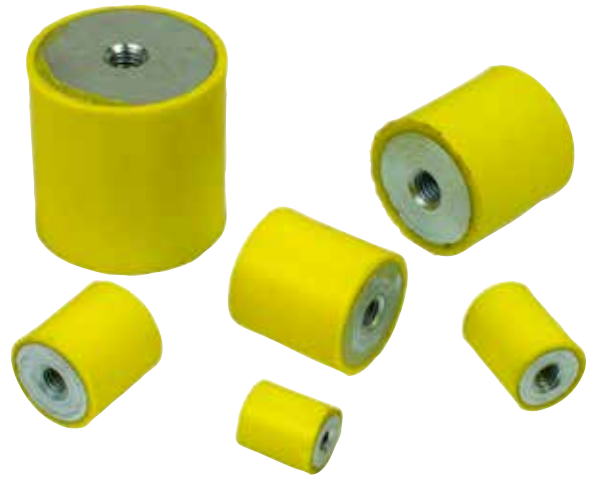
The Mackay M164 mounting pad is available in a **standard size of 457mm x 457mm**. Using scissors or a knife , the pad can be easily cut to required size. **Thickness 7mm**.





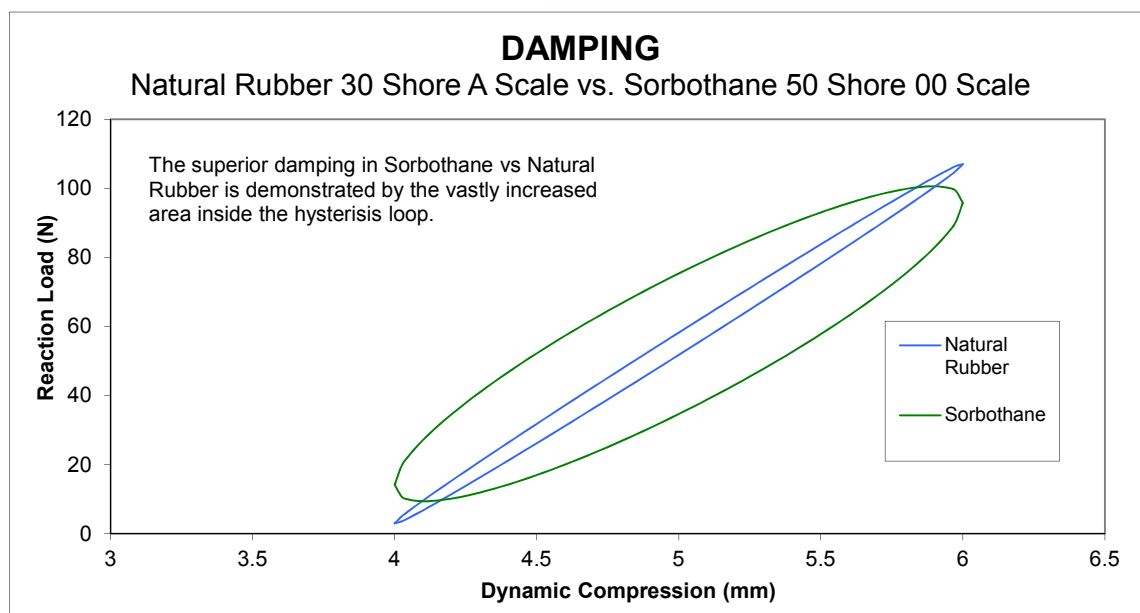
# SUREDAMP®

## Section 20



# SUREDAMP®

The Mackay SureDamp™ isolator range extends the range of applications for the extensive Mackay Flexible Isolators range. SureDamp™ isolators have been designed for low load applications where traditional rubber isolators cannot provide adequate vibration isolation or vibration damping. SureDamp™ isolators can also be used in place of traditional rubber isolators where superior damping properties are required.



SureDamp™ isolators are made using the thermoset, polyether-based, polyurethane material Sorbothane™, known around the world for its unique combination of properties.

Sorbothane™ combines shock absorption, good memory, vibration isolation and vibration damping characteristics. In addition, Sorbothane is a very effective acoustic damper and absorber. While many materials exhibit one of these characteristics, Sorbothane™ combines low creep rate compared to other polymers and a superior damping coefficient, over a very wide temperature range.

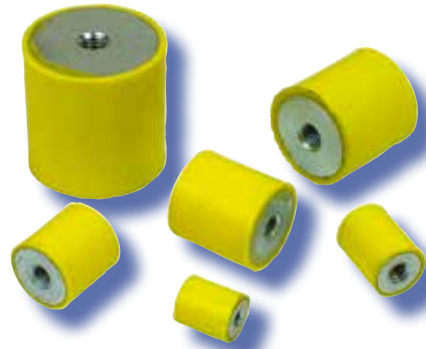
The SureDamp™ range of isolators uses the unique materials properties to provide vibration damping, acoustic insulation and high durability.

SureDamp™ MultiCushions™ extend the MultiCushion range into lower load range applications and open up a wide range of possibilities for the protection of delicate electronics, providing superior isolation and damping. Geometrically identical to the standard rubber MultiCushions™ the Mackay MultiStud™ system is used with SureDamp™.

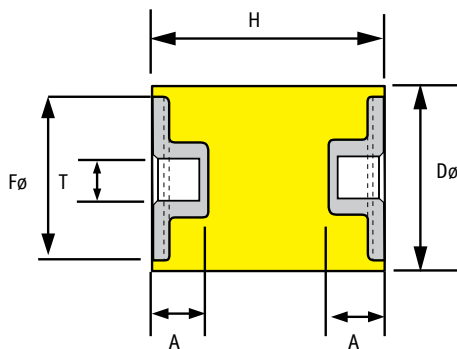
SureDamp™ two-piece isolators allow isolation of circuit boards, panels and control boxes where lateral stiffness or low profile is required.

SureDamp discs and hemispheres introduce self adhesive fixture and SureDamp sheet allows custom shapes to be made.

The **SUREDAMP®** multicushion have been developed for low load applications such as Electronics and sensitive equipment where shock and vibration is a significant concern.



Product Code	Diameter "D"	Height asCast "H"	"Design-Height "H"	Insert-Flange "F"	Thread "T"	Thread-Depth "A"	Rated Load (kg)
MSDMC1315M450	13	15	12	11	M4x0.7	40	.4 - 1.1
MSDMC1620M650	16	20	15	14	M6x1.0	6	0.7 - 1.8
MSDMC2020M650	20	20	15	18	M6x1.0	6	1.3 - 3.5
MSDMC2525M650	25	25	19	22	M6x1.0	6	1.0 - 2.7
MSDMC3030M850	30	30	23	26	M8x1.25	9	1.5 - 3.6
MSDMC4040M850	40	40	30	36	M8x1.25	8.5	3.0 - 7.4

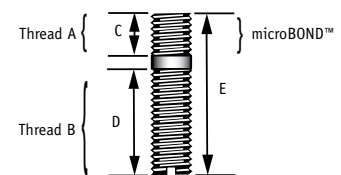


**Note: Sold in packs of 4 pieces only.**

## STUD DETAILS

MULTICUSHION	THREADS		DIMENSIONS		
Stud Part No	A mm	B mm	C mm	D mm	E mm
M4M4	M4 x 0.7	M4 x 0.7	4	15	19 *
M4M5	M4 x 0.7	M5 x 0.8	4	15	20.5
M4W316	M4 x 0.7	3/16"WHIT x 24tpi	4	15	20.5
M6M6	M6 x 1.0	M6 x 1.0	6	15	21 *
M6M8	M6 x 1.0	M8 x 1.25	6	20	28
M6W316	M6 x 1.0	3/16"WHIT x 24tpi	6	15	22.5
M6W14	M6 x 1.0	1/4"WHIT x 20tpi	6	15	22.5
M8M8	M8 x 1.25	M8 x 1.25	8	20	28 *
M8M10	M8 x 1.25	M10 x 1.5	8	25	35
M8W516	M8 x 1.25	5/16"WHIT x 18tpi	8	20	31

\* Denotes continuous thread



## microBOND™ Thread Security

Thread	Prevailing on-torque (max) Nm	Breakaway off-torque (min) Nm	Prevailing off-torque (min) Nm
M4	-	-	-
M6	1.8	1.5	0.8
M8	2.8	4	2

microBOND™ is a trade mark of W.A. Deutscher Pty Ltd

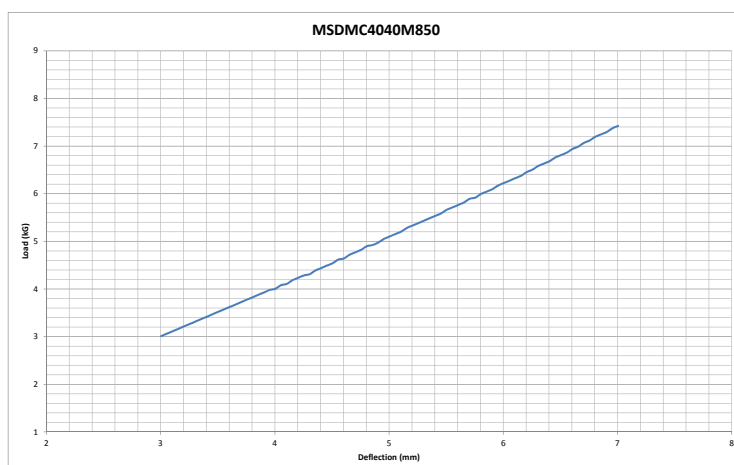
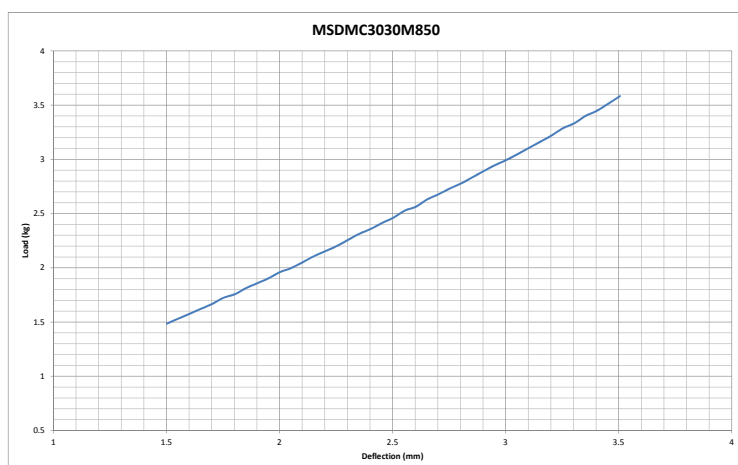
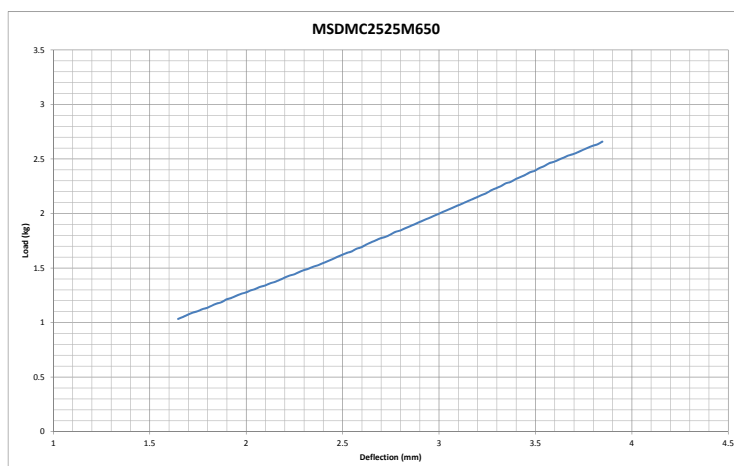
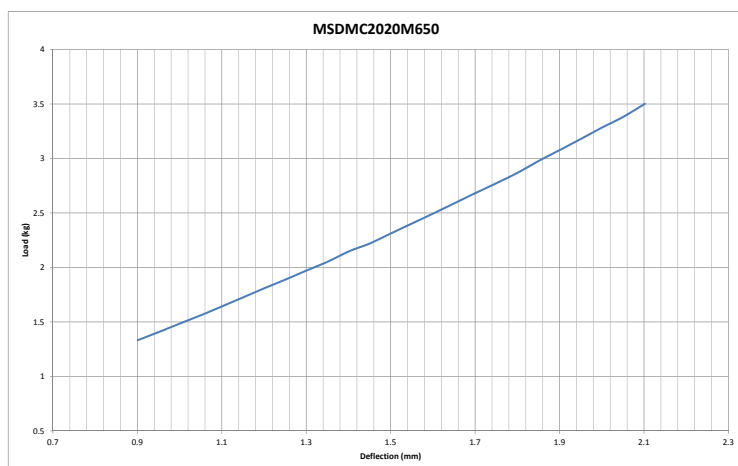
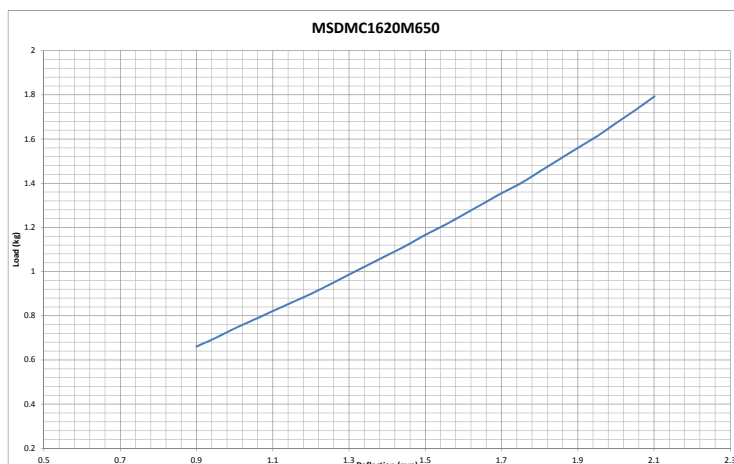
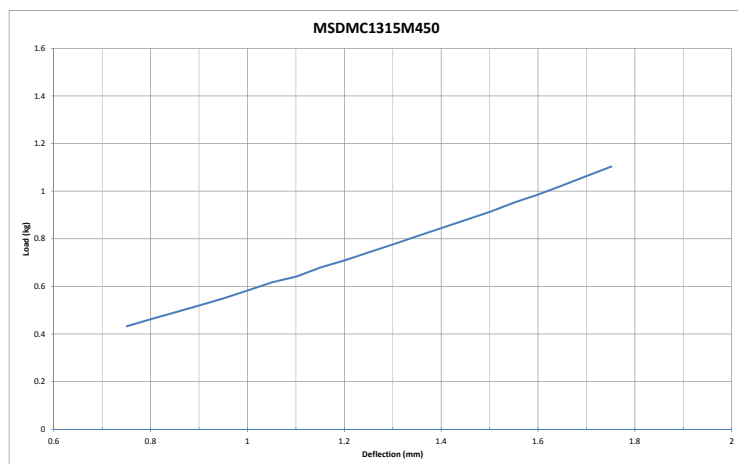
all properties nominal, contact Mackay for Technical advice

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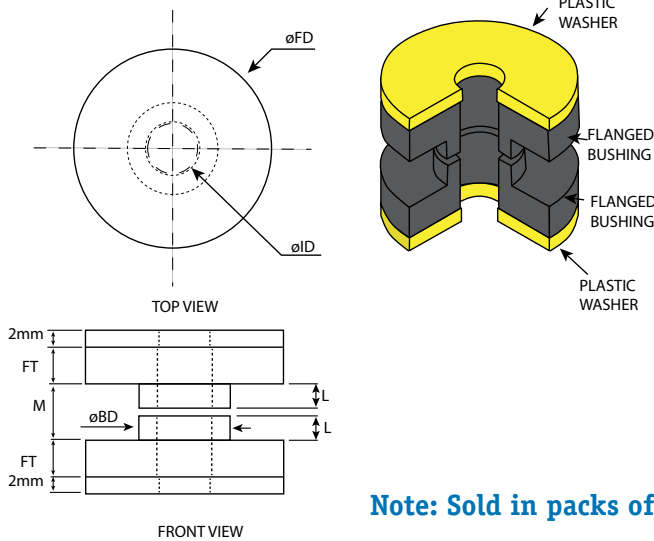
**SUREDAMP®** MADE WITH **Sorbothane®**

All Dimensions in Millimetres

www.mackayrubber.com.au



## SUREDAMP® Two Piece Type A

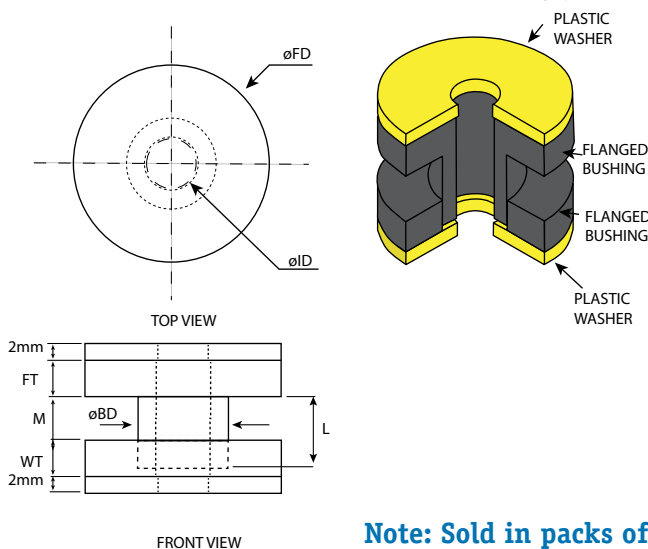


**Note: Sold in packs of 4 pieces only.**



Product Code	Flange Diameter "FD"	Flange Thickness "FT"	Length "L"	Inner Diameter "ID"	Suits Bolt Size	Bush- ing Di- ameter "BD"	Material Thickness "M"	Rated Load (kg)
MSDTPA150	18	4	2	6.5	M6	12	4.0 - 10.0	1.0 - 5.0
MSDTPA250	25	5	3	6.5	M6	12	6.0 - 15.0	5.0 - 15.0

## SUREDAMP® Two Piece Type B



**Note: Sold in packs of 4 pieces only.**



Product Code	Flange Diameter "FD"	Flange Thickness "FT"	Washer Thickness "WT"	Length "L"	Inner Diameter "ID"	Suits Bolt Size	Bushing Diameter "BD"	Material Thickness "M"	Rated Load (kg)
MSDTPB150	18	4	3	2	6.5	M6	12	< 1.0	1.0 - 5.0
MSDTPB250	25	5	3	3	6.5	M6	12	< 2.0	5.0 - 10.0
MSDTPB350	25	5	6	3	6.5	M6	12	< 2.0	5.0 - 15.0
MSDTPB450	25	5	6	10	6.5	M6	12	4.0 - 8.0	5.0 - 15.0
MSDTPB550	25	5	10	10	6.5	M6	12	2.0 - 8.0	5.0 - 15.0

Each Bushing Kit is supplied complete with 1 Sorbothane Bushing, 1 Sorbothane Bushing Washer and 2 Plastic Washers (2mm thick) to suit an M6 bolt. The bolt should be secured using a nylon locking nut (or similar) and should be tightened such that it crushes the Bushing Kit by approximately 2mm (or 2 full turns of an M6x1.0 nut).

all properties nominal, contact Mackay for Technical advice

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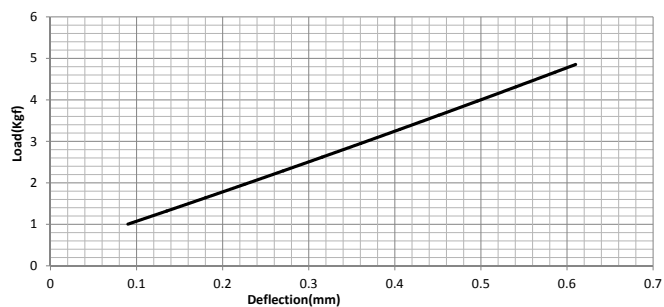
**SUREDAMP®** MADE WITH **Sorbothane®**

All Dimensions in Millimetres

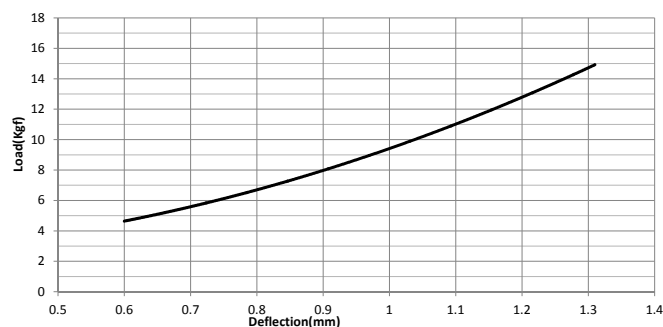
[www.mackayrubber.com.au](http://www.mackayrubber.com.au)

## Load Deflection

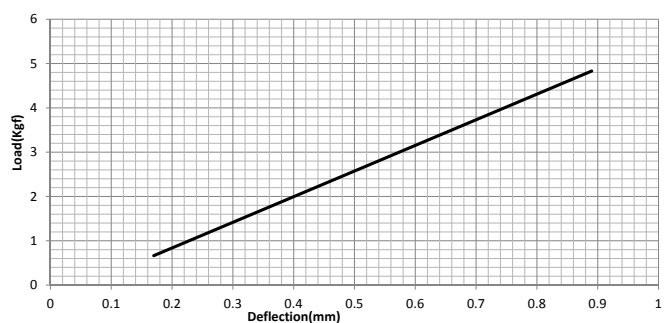
**MSDTPA150**



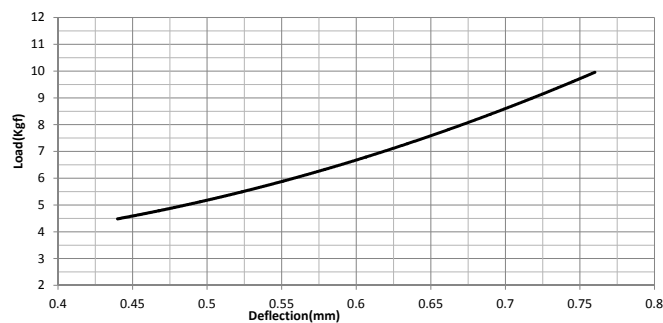
**MSDTPA250**



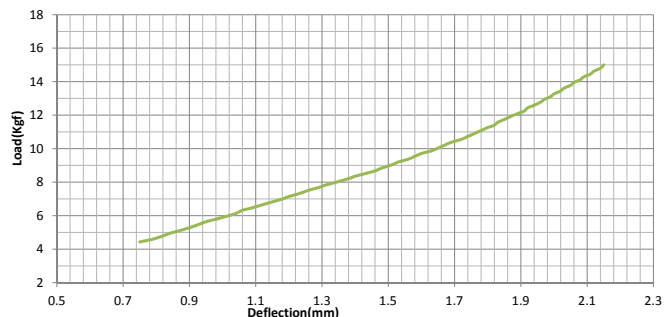
**MSDTPB150**



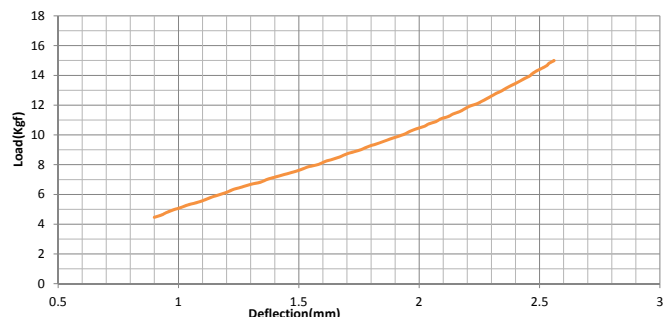
**MSDTPB250**



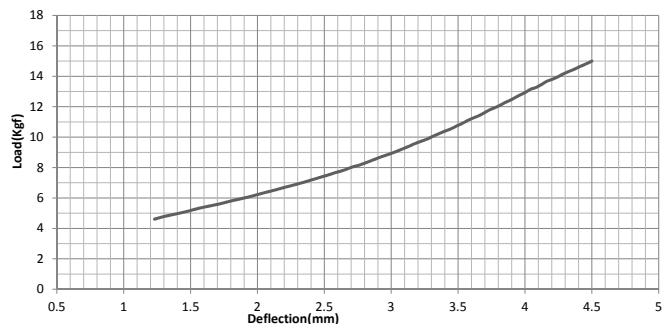
**MSDTPB350**



**MSDTPB450**



**MSDTPB550**

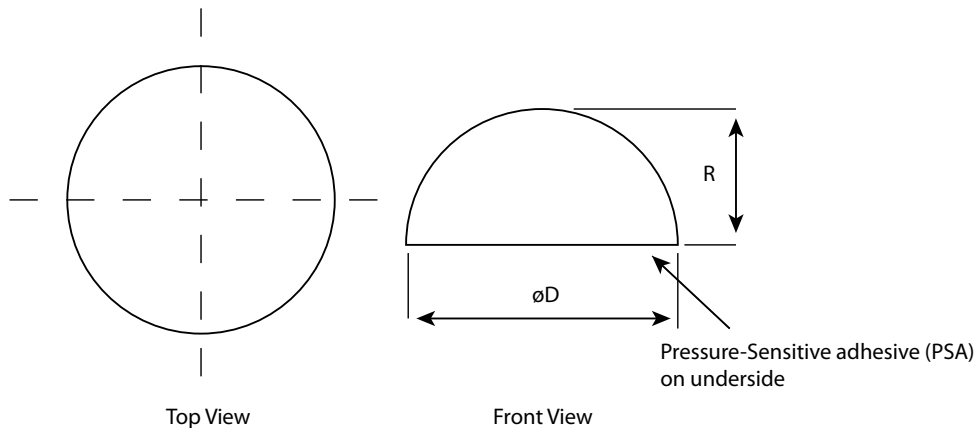
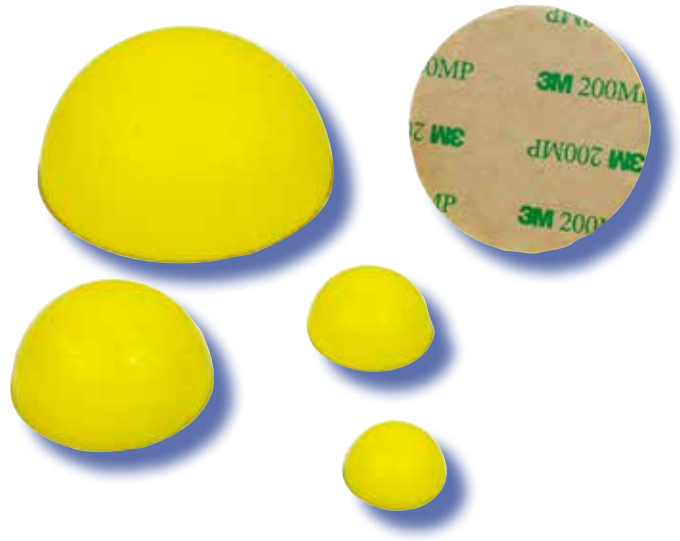




The **SUREDAMP®** Applications include free-standing feet for a wide range of applications such as small appliances, cameras on recreational vehicles, electronic equipment, speakers, computers, multimedia projectors, DVD players and audio equipment such as high-end turntables.

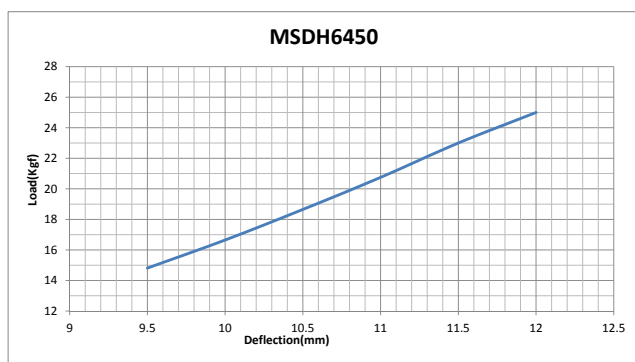
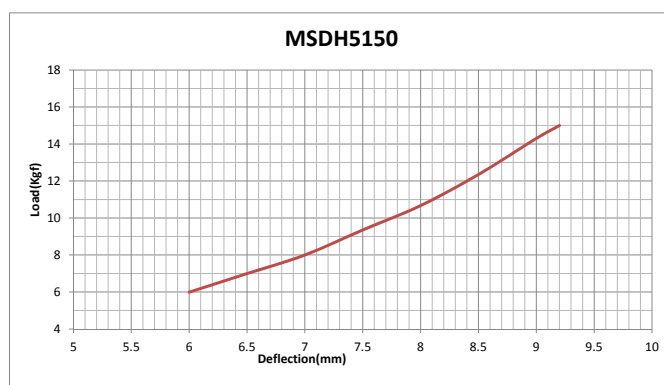
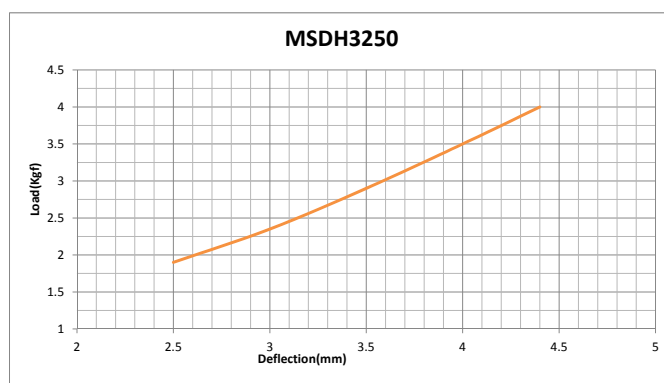
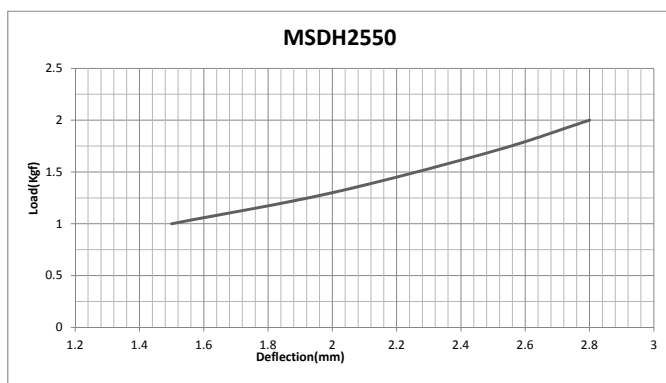
The Hemisphere pads can be used as dampers on mobile computers and electronics for vibration isolation.

They work great for separating stacked equipment. Sure-Damp hemispheres can be used as non-slip feet on bench tops and electronic assemblies. They are also useful to help protect delicate printed circuit boards from vibration and shock

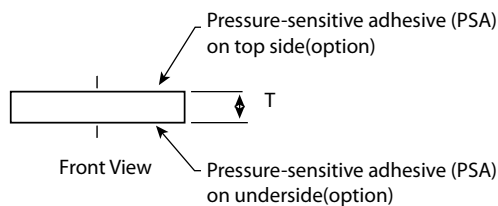
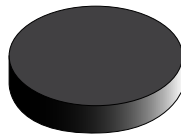
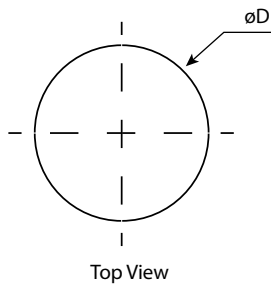


**Note: Sold in packs of 4 pieces only.**

Product Code	Diameter "D"	Height as Cast "R"	Design Height "R"	Rated Load (kg)
MSDH1950	19.1	9.0	7	0.5 - 1.0
MSDH2550	25.4	12.7	10	1.0 - 2.0
MSDH3250	31.8	15.9	12	2.0 - 4.0
MSDH3850	38.1	19.1	14	4.0 - 7.0
MSDH5150	50.8	25.4	19	7.0 - 15.0
MSDH6450	63.5	31.8	24	15.0 - 25.0



## SUREDAMP® Disc Pad



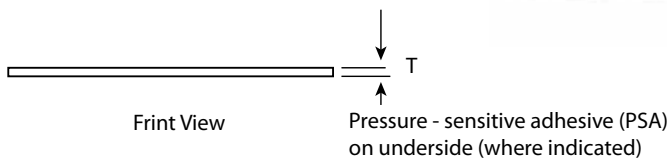
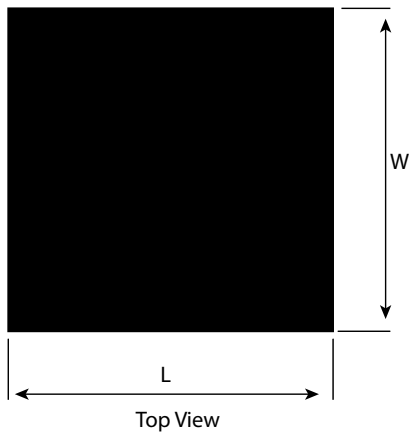
**Note: Sold in packs of 4 pieces only.**

Product Code	Thickness "T"	Diameter "D"	Rated Load (kg)
MSDD100350A0	3	10	0.5 - 1.5
MSDD130650A0	6	13	1.0 - 1.5
MSDD200650A0	6	20	2.0 - 5.0
MSDD350650A0	6	35	5.0 - 35.0
MSDD201050A0	10	20	1.5 - 5.0
MSDD351050A0	10	35	5.0 - 20.0
MSDD201650A0	16	20	2.0 - 5.0
MSDD351650A0	16	35	5.0 - 10.0
MSDD501650A0	16	50	10.0 - 35.0
MSDD252550A0	25	25	2.0 - 5.0
MSDD352550A0	25	35	5.0 - 10.0
MSDD502550A0	25	50	10.0 - 25.0

For Pressure-Sensitive Adhesive (PSA) on the Underside Only, replace the final "0" from the Product Code with a "1", eg. MSDD100350A1

For Pressure-Sensitive Adhesive (PSA) on the Underside AND Top Side, replace the final "0" from the Product Code with a "2", eg. MSDD100350A2

## SUREDAMP® Sheet



Product Code	Thickness "T"	Length "L"	Width "W"	PSA
MSDS1521020150A1	1	152	102	Yes
MSDS3053050350A0	3	305	305	-
MSDS3053050350A1	3	305	305	Yes
MSDS3053050650A0	6	305	305	-
MSDS3053050650A1	6	305	305	Yes
MSDS6106100650A0	6	610	610	-
MSDS3053051050A0	10	305	305	-
MSDS3053051050A1	10	305	305	Yes
MSDS3053051650A0	16	305	305	-
MSDS3053051650A1	16	305	305	Yes
MSDS3053052550A0	25	305	305	-
MSDS3053052550A1	25	305	305	Yes

**SUREDAMP®** MADE WITH **Sorbothane®**

all properties nominal, contact Mackay for Technical advice

All Dimensions in Millimetres

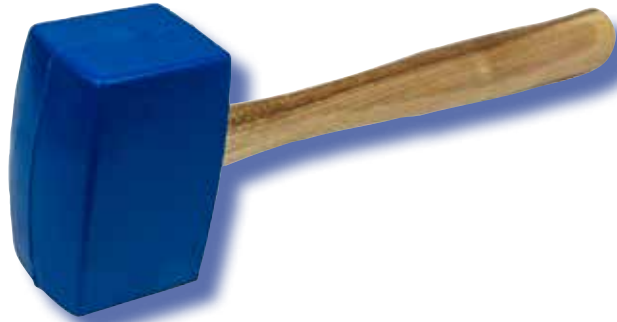
## SureDamp Soft Mallet

The **SUREDAMP®** Soft-Blow Mallet is an engineered product that actually conforms to surface irregularities, providing maximum surface contact without denting and marring. Designed to replace conventional dead-blow hammers and rubber mallets, the SureDamp Soft-Blow Mallet can be used in a variety of industrial and commercial applications.

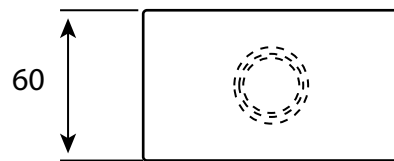
The SureDamp Soft-Blow Mallet is used extensively in the automotive assembly and repair industry along with the wood working trade. The mallet can be used on all types of surfaces and assemblies including hard and soft metals, glass, wood, and any other material where a dead-blow hammer or rubber mallet would normally be used. The Soft-Blow Mallet's no-dent and non-marring features also reduce secondary damage and repair time. Also, because impact is absorbed and dissipated within the Sorbothane material, hand jarring and harmful impact shock associated with conventional dead blow hammers is virtually eliminated.

Unlike typical rubber mallets, SureDamp Soft Blow Mallets resist common chemicals, minimize scuffing, denting and marring of surfaces.

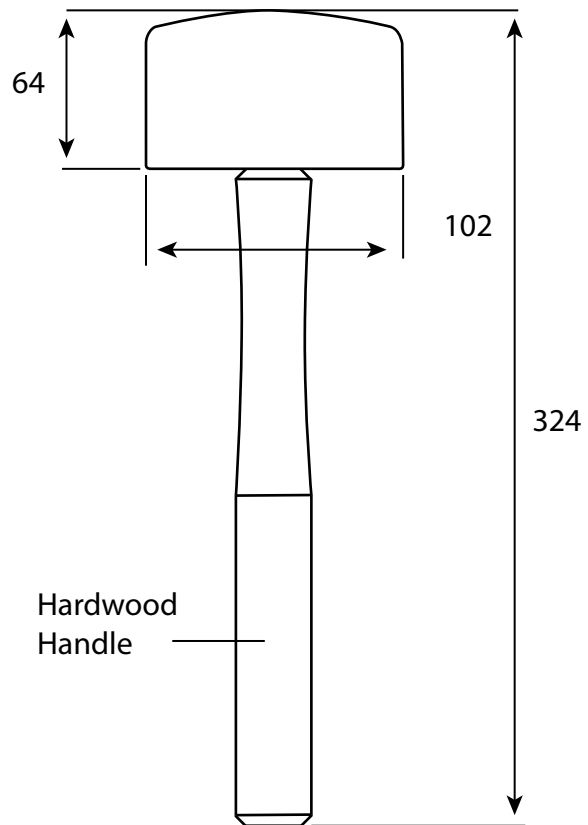
Commonly used for automotive body work, fine cabinetry, finishing carpentry and glass installation.



Mackay Part # **MSDMSBM**



Top View



Front View

- 1 These terms and conditions apply to all sales and quotations by Mackay Consolidated Industries Pty Limited (Mackay), and do not affect the rights, entitlements and remedies of any customer who is a consumer under the Trade Practices Act. All contracts between the Seller and the purchaser shall be governed exclusively by these "Terms and Conditions of Sale". The Buyer's terms and conditions shall only apply if expressly accepted by Mackay in writing.
- 2 Every quotation is an estimate only and is subject to withdrawal, correction or alteration at any time prior to the Seller's acceptance of the Buyer's order.
- 3 Orders are accepted on the basis that the Seller reserves the right to vary the prices payable by the Buyer to accord with those ruling at the date of despatch, except where prior negotiation allows an order on an alternative basis. In the event that any order or other document forwarded by the Buyer to the Seller contains anything inconsistent with these conditions such order or other document, if accepted, is accepted only on the express understanding that these conditions are to prevail in all cases.
- 4 (a) Prices are subject to the Buyer's order being for the whole quantity mentioned in the quotation unless otherwise negotiated.  
 (b) All prices shall not include Goods and Services Tax (GST) on the transaction or stamp duty on any document connected therewith or other governmental imposts upon the sale, transportation or delivery of goods. Where applicable GST will be shown against each product line supplied, and included in the total amount invoiced.  
 (c) Seller may invoice the goods sold at its prices ruling on the date of each delivery as set forth in its then current price list, as is certified to by Seller's Authorised Officer and Buyer waives any requirement of notice to Buyer, unless otherwise agreed to, of any such price list or of any variation in such prices from those ruling at the date of this offer.
- 5 Whilst every endeavour will be made to effect delivery by the date given, the Seller shall not be liable to penalties or damages (either direct or indirect) for failure to deliver within the time stated due to strikes, accidents, wars and any other causes beyond the Seller's control.
- 6 Where the goods are purchased by the Buyer on an FOB basis, prices are based on existing rates of freight, exchange, insurance, customs and other duties. Any variation either way in such rates between time of order confirmation and time of receipt of goods will be to the Buyer's account.
- 7 (a) Unless otherwise agreed by Seller in writing, payment for all goods will be net within thirty (30) days.  
 (b) If the Buyer fails to make any payment to the Seller by the due date the Seller may without notice withhold delivery of any further goods to the Buyer until payment of all monies due to the Seller by the Buyer on any account has been made in full and the Seller furthermore, at its discretion, will treat the Buyer as having repudiated any or all subsisting contracts between the Seller and the Buyer.
- 8 (a) Title to the goods shall remain with the Seller until such time as the full price is paid by the Buyer.  
 (b) Until the goods are paid for in full the Seller authorises the Buyer to sell the goods but as agent of the Seller and until the Seller has been paid in full the Buyer must place the proceeds of sale into a bank account separate from other bank accounts which shall be held by the customer as trustee for the Seller.  
 (c) Pending payment for goods the Buyer must keep the goods separate from all other goods and keep them fully insured in the name of the Seller and the Buyer for their respective interests.  
 (d) If the Buyer is in default in payment for the goods the Seller may repossess the goods without notice and the Buyer grants access to its premises for the purpose of repossession. Upon repossession of the goods the Seller may resell any or all of the goods.
- 9 The Buyer acknowledges that risk in the goods will pass to the Buyer upon delivery of the goods to the Buyer's nominated point of delivery or to the Buyer's carrier if the goods are collected from the Seller's premises.
- 10 The Buyer will be responsible for immediate examination of goods after arrival at the place of delivery to satisfy himself that the goods supplied are of the description quality and character ordered, suitable for the purpose for which they are required. Subject to any legislation to the contrary, the Seller shall not be liable for any loss or damage direct or indirect howsoever arising from the sale or from the failure of the Buyer to so satisfy himself. The Seller shall, except as may otherwise be provided by law, not be liable for any claim to which he would otherwise be liable in respect of damaged goods including goods damaged in transit unless particulars of such claim are notified to the Seller in writing within fourteen (14) working days after arrival of the goods at the place of delivery.
- 11 The Seller will not accept the return of goods unless such return is expressly authorised by the Seller and within fourteen (14) days of receipt by the Buyer.
- 12 Unless specifically provided in writing to the contrary, the Buyer will have no claim against the Seller if the quantity of goods supplied does not accord strictly with the quantity of goods ordered.
- 13 Where goods are manufactured to the Buyer's specification the Buyer indemnifies the Seller against any liability to or action by a third party for infringement or alleged infringement of a patent, registered design, trademark or copyright.
- 14 (a) The Buyer's attention is drawn to Section 68A of the Trade Practices Act, 1974 ("the Act") which has the effect of enabling suppliers in respect of contracts for the supply of goods or services not being goods or services of a kind ordinarily acquired for personal, domestic or household use of consumption to limit their liability in certain circumstances for breach of certain of the conditions and warranties implied by the Act.  
 (b) Subject to the qualifications contained in Section 68A of the Act should the Seller be liable for breach of a condition or warranty implied by Division 2 of Part V of the Act (not being a condition or warranty implied by Section 69 of the Act) the Seller's liability for such breach shall be limited to -
  - (1) In the case of goods, any one of the following as determined by the Seller:
    - (i) The replacement of goods or the supply of equivalent goods; or
    - (ii) The repair of the goods; or
    - (iii) The payment of the cost of replacing the goods or of acquiring equivalent goods; or
    - (iv) The payment of the cost of having the goods repaired.
  - (2) In the case of services, one of the following as determined by the Seller:
    - (i) The supplying of the services again; or
    - (ii) The payment of the cost of having services supplied again.
- (c) To the full extent permitted by law, but subject always to the above terms, all conditions, warranties and representations not explicitly contained herein are hereby expressly negated and excluded.