



Starflex Conveyor Belting

# DUNLOP

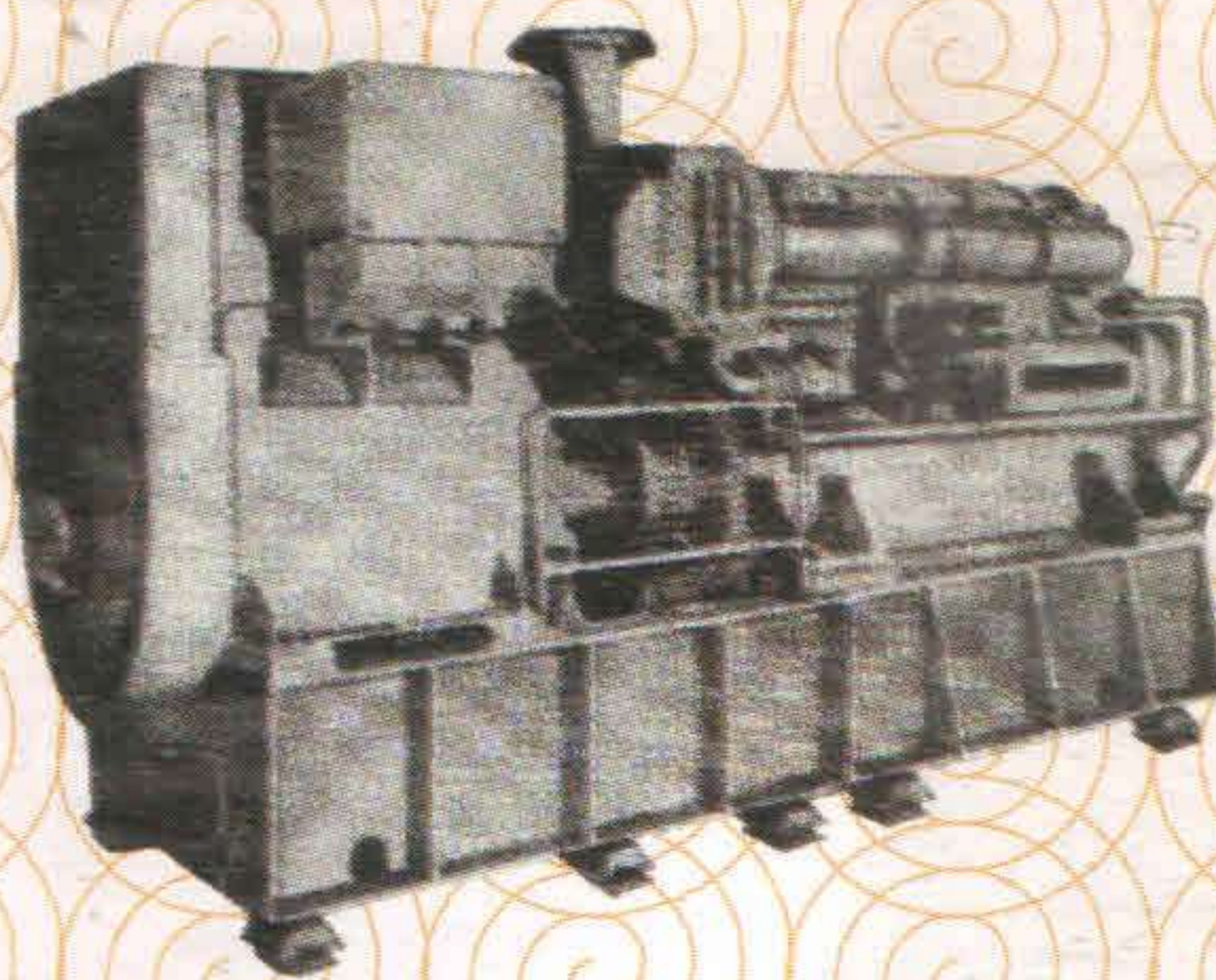
INDIA  
TYRE  
&  
RUBBER

## METALASTIK

### Cushyfoot Anti-Vibration Mounting

#### 1st step - Application :

Cushyfoot mountings provide large deflection, high load capacity and long service life. They should be given first consideration for isolating vibration from diesel generators, blowers and most medium weight to heavy machines and also for protecting machinery and heavy electronic installations from external vibration. Friction locating pads used in conjunction with Cushyfoot mountings permit the installation of a wide range of machines without bolting to the floor.



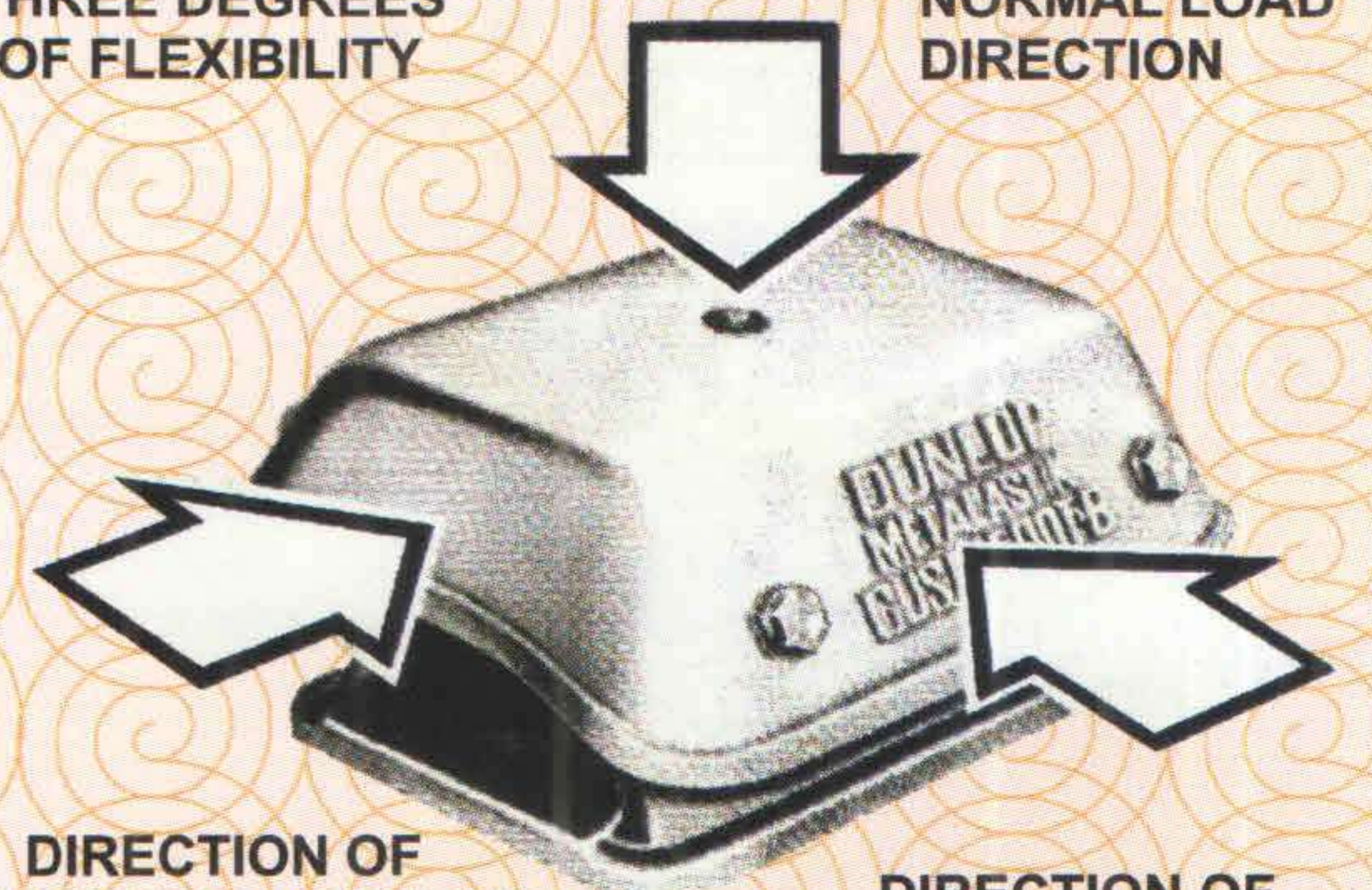
Load Range	
Series	Kgs per mounting
A	83-350
B	310-1650
High Deflection (HD)	630-1280

#### Cushyfoot Mountings

The Cushyfoot mounting springs are loaded in shear and compression for optimum load / deflection characteristics and are protected from oil and physical damage by the robust iron castings in which they are housed. By using rubber elements of different stiffnesses, deflections of up to 6 mm can be provided with the A and B series and upto 16mm with the HD series. Cushyfoot HD at its maximum deflection (16mm) provides approximately 70% isolation for machines running at 500 r.p.m. Vibration from machines running at even lower speeds can be controlled effectively with mountings arranged in series as shown in the illustration at the side of this page. HD mountings arranged in series permit deflection of up to the HD series extends the variety of machines that can be successfully vibration isolated without additional weight in the form of an inertia block. For applications where extra weight is needed to reduce amplitude, a much smaller inertia block can normally be used.

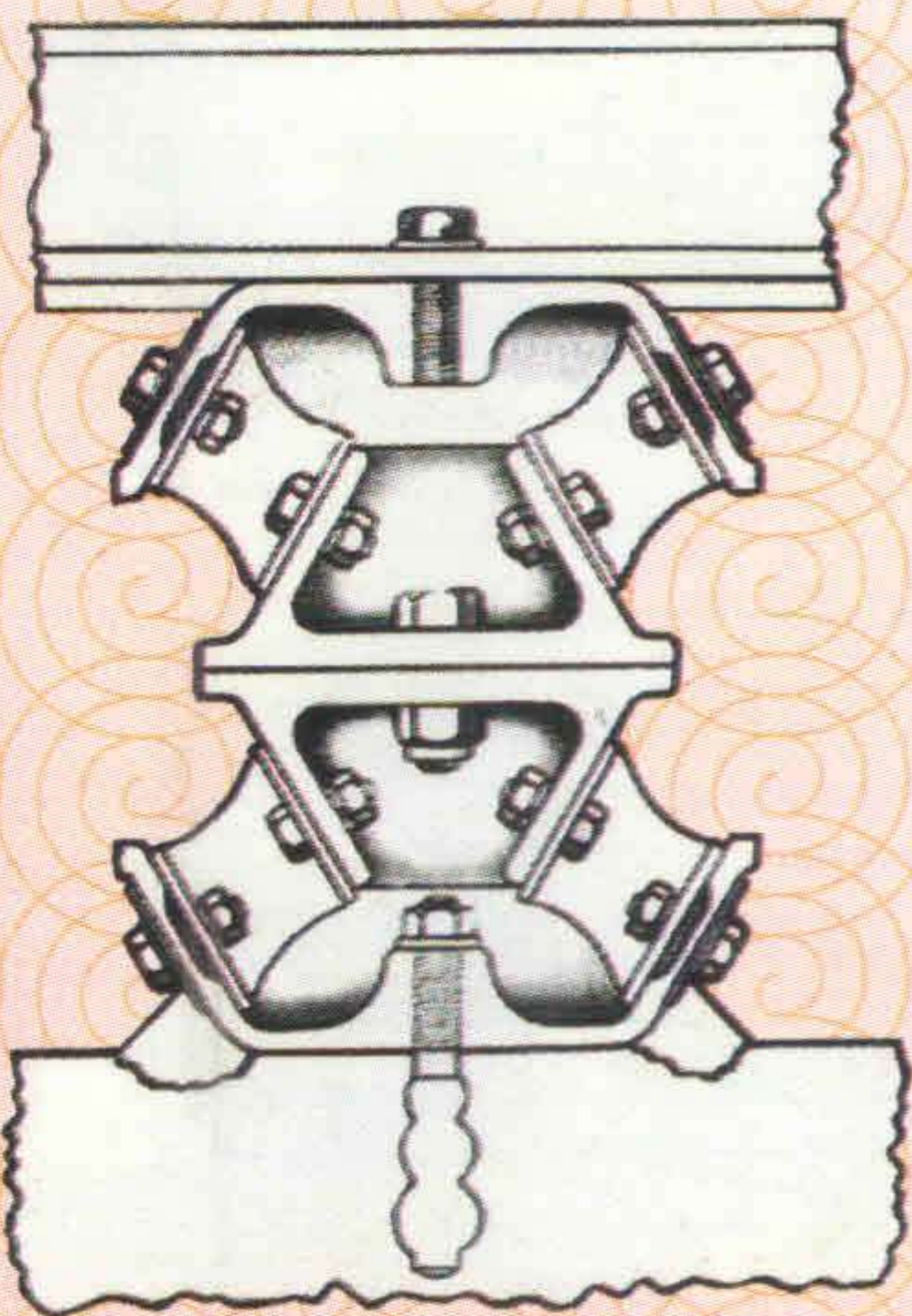
THREE DEGREES  
OF FLEXIBILITY

NORMAL LOAD  
DIRECTION



DIRECTION OF  
MAXIMUM FLEXIBILITY

DIRECTION OF  
MAXIMUM STIFFNESS



CUSHYFOOT MOUNTINGS ARRANGED IN SERIES

#### Direction of Fitment

Under vertical loads the bonded rubber elements in the Cushyfoot mounting are loaded in shear and compression.

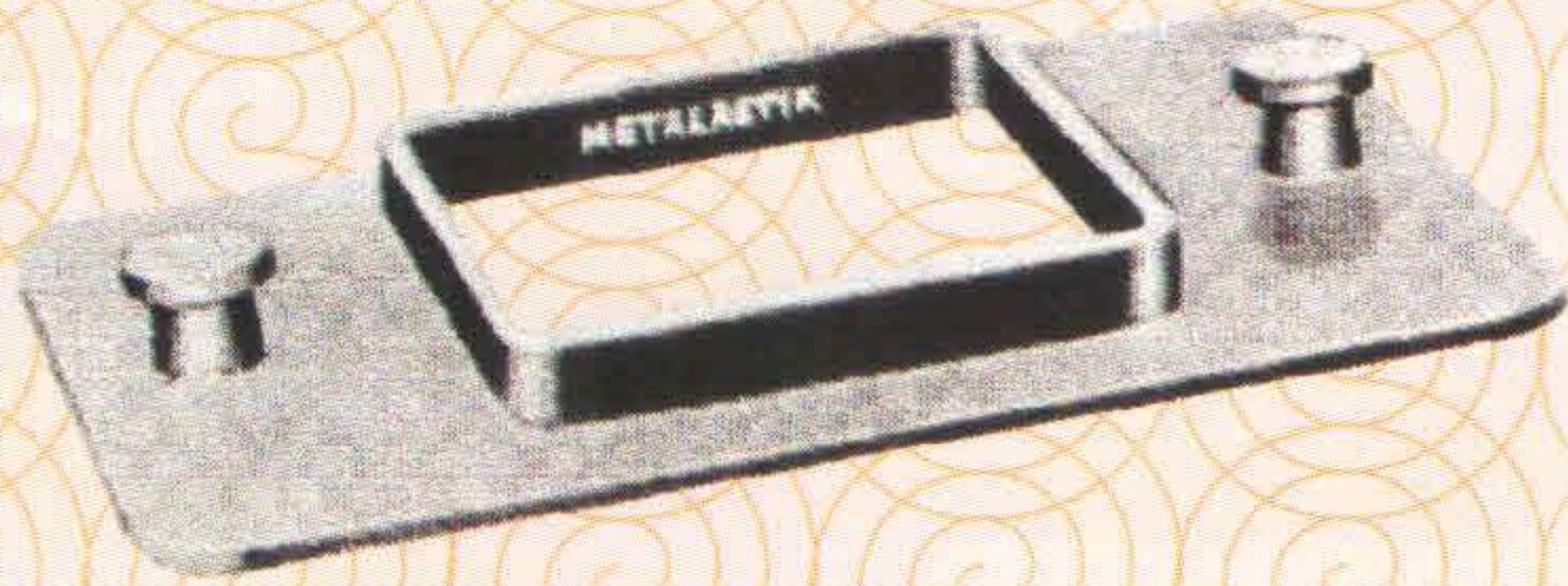
In direction A the mounting is more flexible than in B. Because loads in direction A are taken by the rubber elements in shear while in direction B they are taken largely in compression.

Mountings should be installed under machinery to take full advantage of the different spring rates in the horizontal plane. Under a diesel generator, for instance, they should be fitted so that they are more flexible in the direction at right angles to the crankshaft - the horizontal direction in which most vibration isolation is required. Three or more mountings can be arranged symmetrically around a vertical axis so that the flexibility of the suspension is the same in all directions.

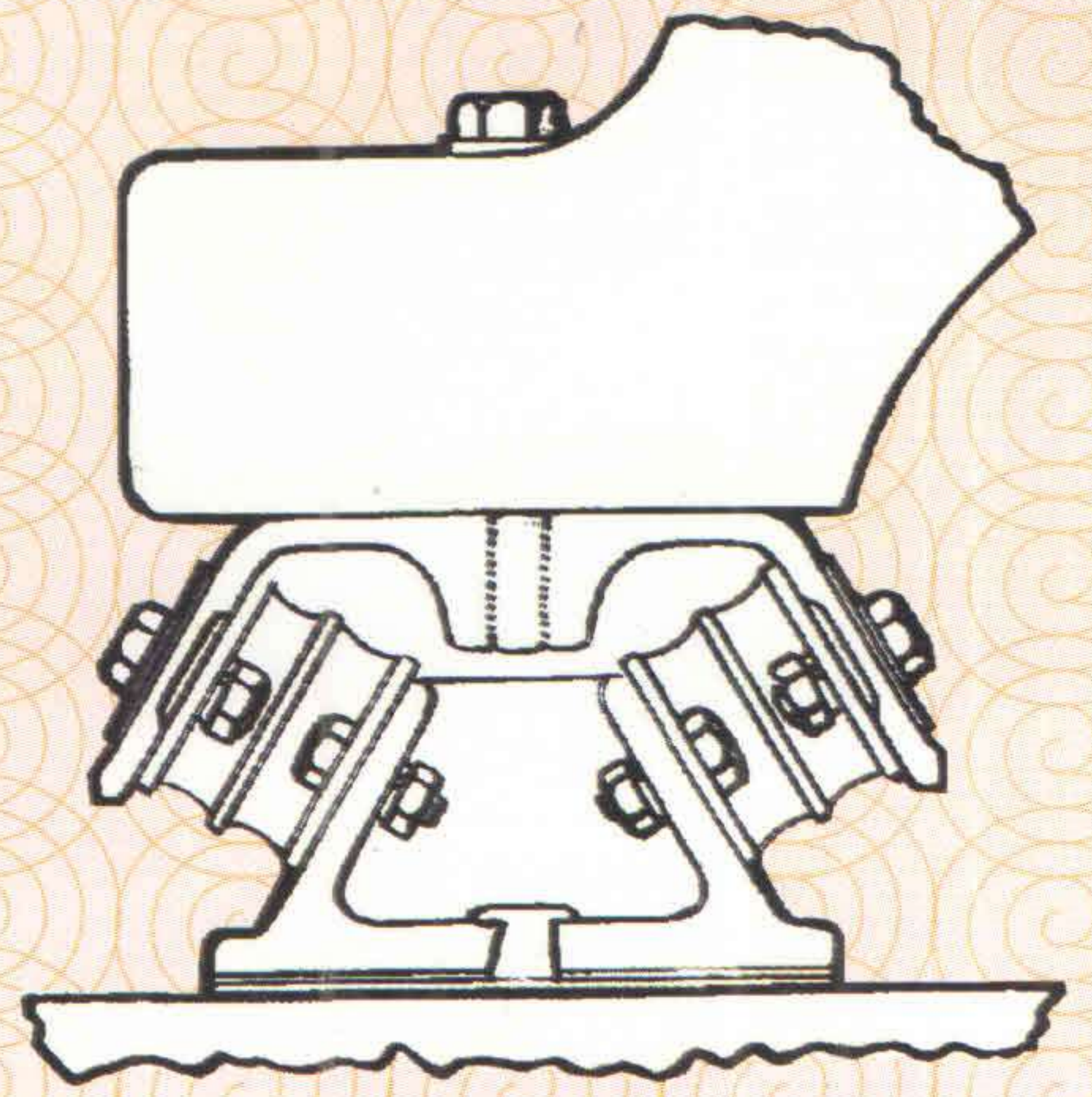


## Friction Pads

Metalastik rubber friction pads simplify installation. No adhesives are needed and it is not necessary to bolt machinery to the floor. Friction pads are made in oil resisting rubber. These can be used on all kinds of floorings and for a wide range of stationary machines but should not be employed for mobile installations. Friction pads are supplied to order and the appropriate part numbers shown in the table below should be quoted. Advice on the use of friction pads should be sought from the nearest Dunlop office.



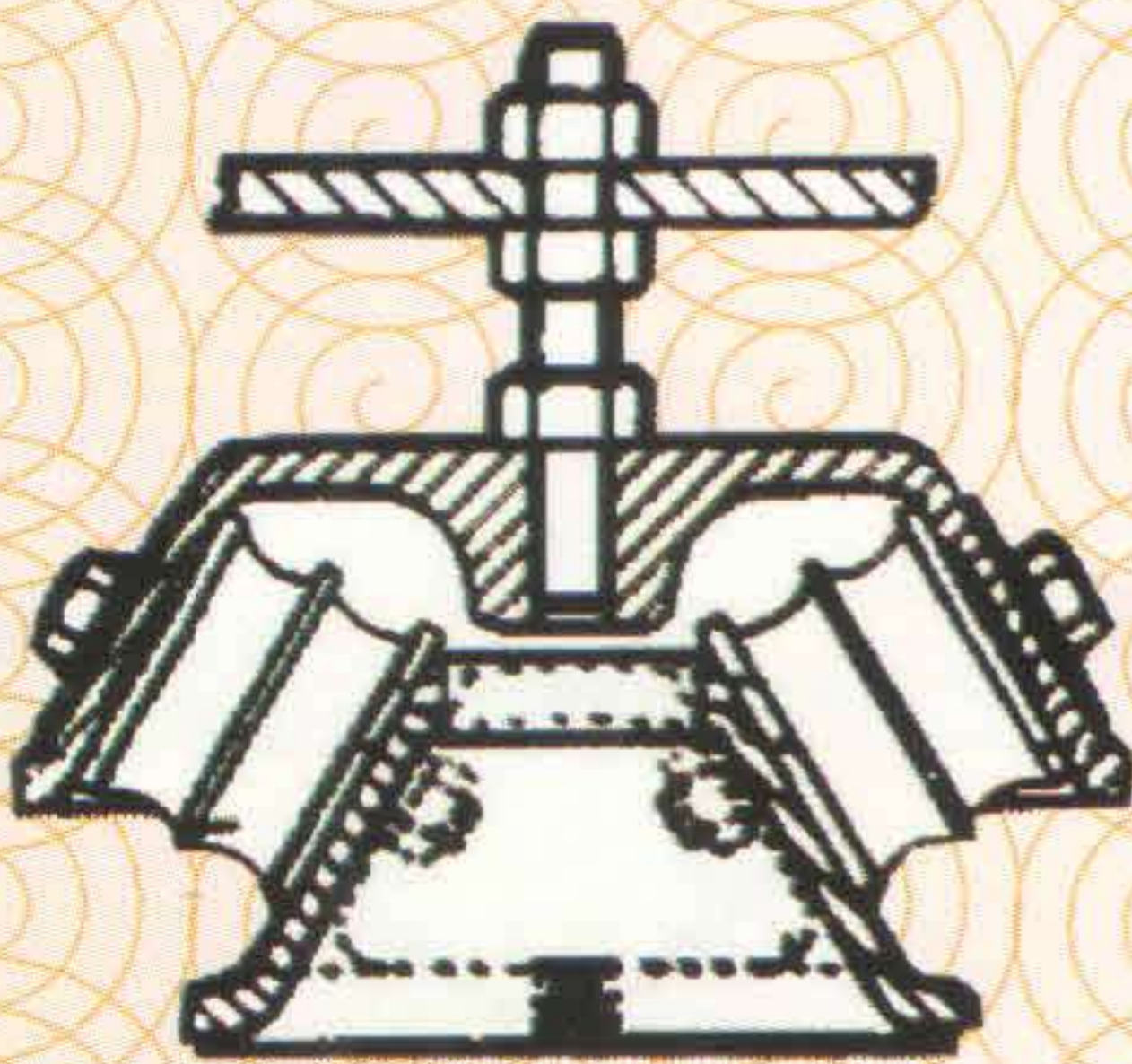
CUSHYFOOT SERIES REFERENCE NUMBER	FRICTION PAD REFERENCE NUMBER
71352 (17/290-A)	712640 (15/531)
71351 (17/213-B)	712620 (15/585)
71360 (17/346-HD)	712620 (15/585)



Top friction pads for A and B series Cushyfoot, corresponding to codes 71261 and 71263, respectively, can also be supplied, if required.

## Height Adjustment

Simple height-adjustment devices are sometimes used with Cushyfoot mountings. A typical screw adjustment which applies a "point" load to the mounting is shown in the sketch. When any type of point loading is employed care should be taken to ensure that the mountings are not subjected to shock.



## Mounting references

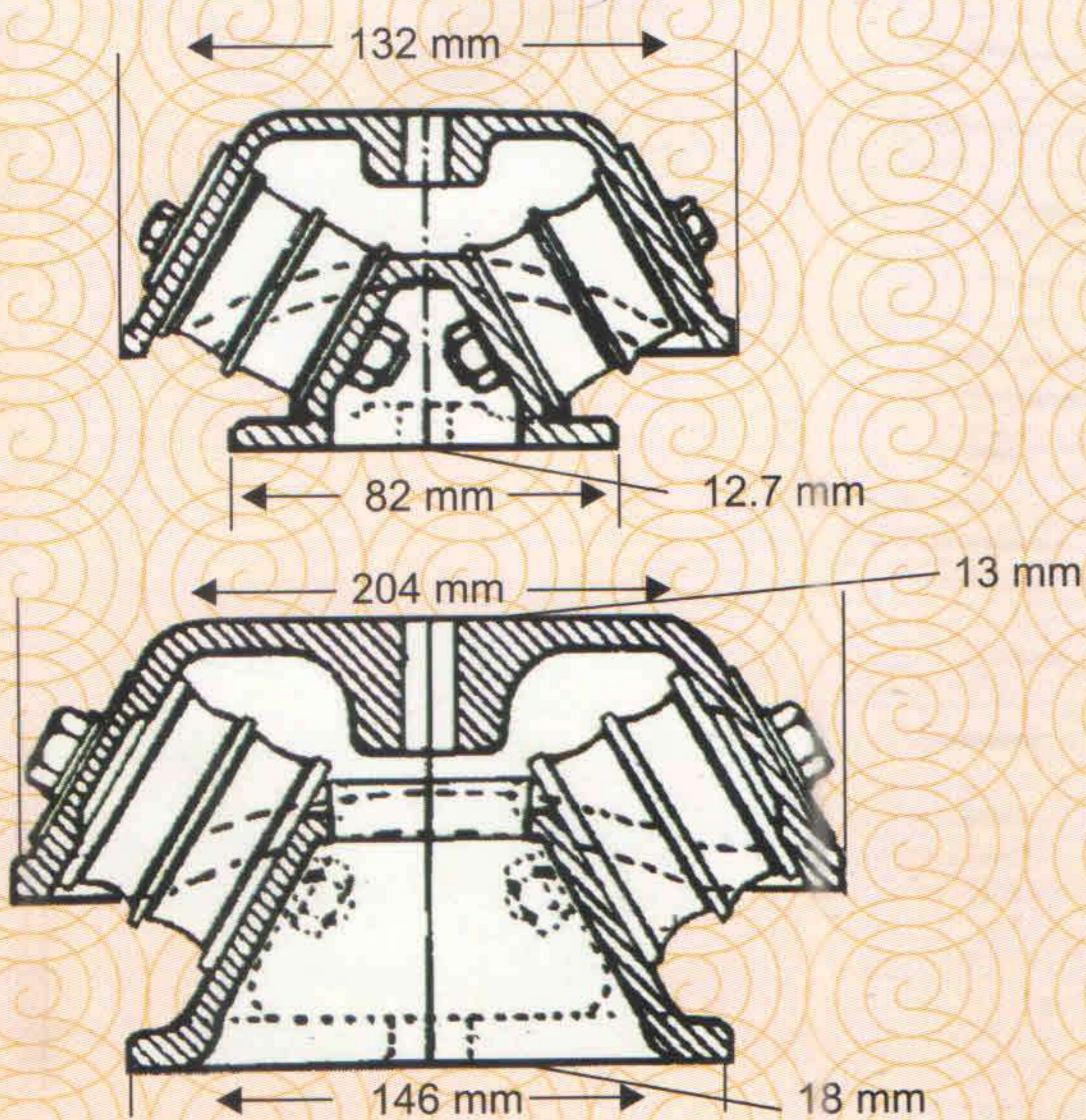
Mounting reference numbers, load capacities and deflections are given below for A, B and HD Series Cushyfoot mountings.

	Mounting Reference No.	Code No.	Maximum Load Capacity (Kg)	Deflection (mm)	Top Fixing Hole Dimension (Normal recommended value)	
					Pain	Tapped
SERIES A	A4	713521	77	5.6	10	M16
	A3	713523	118	5.8		
	A2	713524	153	6.1		
	A1	713526	235	5.8		
	AO	713528	317	5.3		
SERIES B	B4	713573	272	6.3	13	M16
	B3	713513	544	5.6		
	B2	713515	850	5.6		
	B1	713516	1040	5.6		
	BO	713518	1580	5.6		
SERIES HD	HD3	713603	631	14.00	13	M16
	HD3	713605	833	14.00		
	HD1	713606	1280	14.00		

## The Dimensions

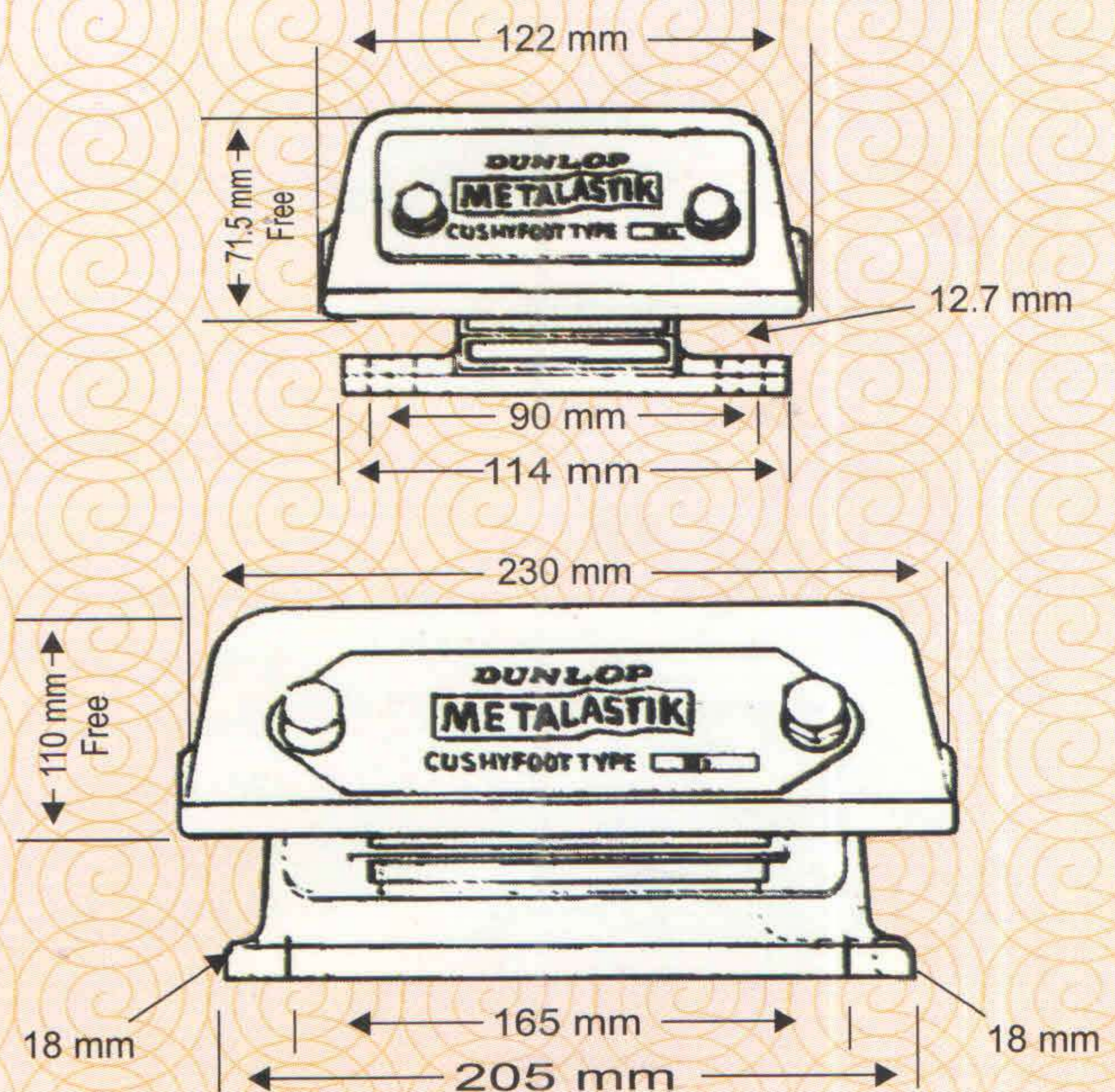
The dimensions of Cushyfoot A and B series mountings are shown below.

The dimensions of the High Deflection (HD) mountings are the same as those of B series except that the free (unladen) height of the HD is 119 mm due to the different bonded rubber elements employed.



"A"  
Series

"B"  
Series

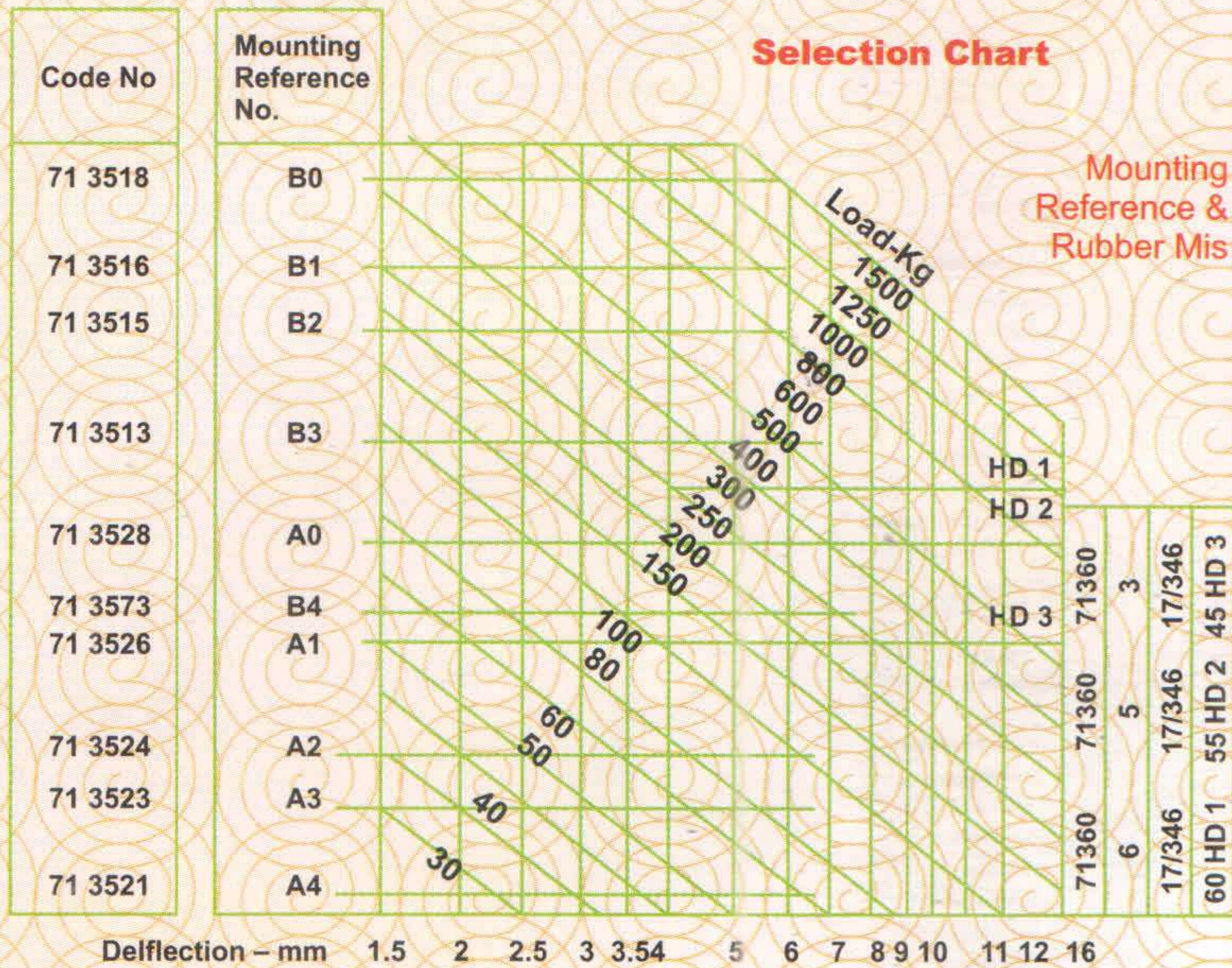




## The Chart and Table

The chart and table provide a guide to the selection of mountings shown in this leaflet the table gives the minimum deflections required for approximately 70% vibration isolation against disturbing frequencies of 400 to 2000 cpm will be found adequate for most applications Insulation of 80% or more can be provided against frequencies of 500 cpm (8.3Hz) and above if the mountings are loaded to give the required deflections shown in the chart should not be exceeded for continuous operation A leaflet on the relationship between vibration transmission, disturbing frequencies and deflections is available on request.

(Maximum deflection of double HD arrangement must not exceed 25 mm)

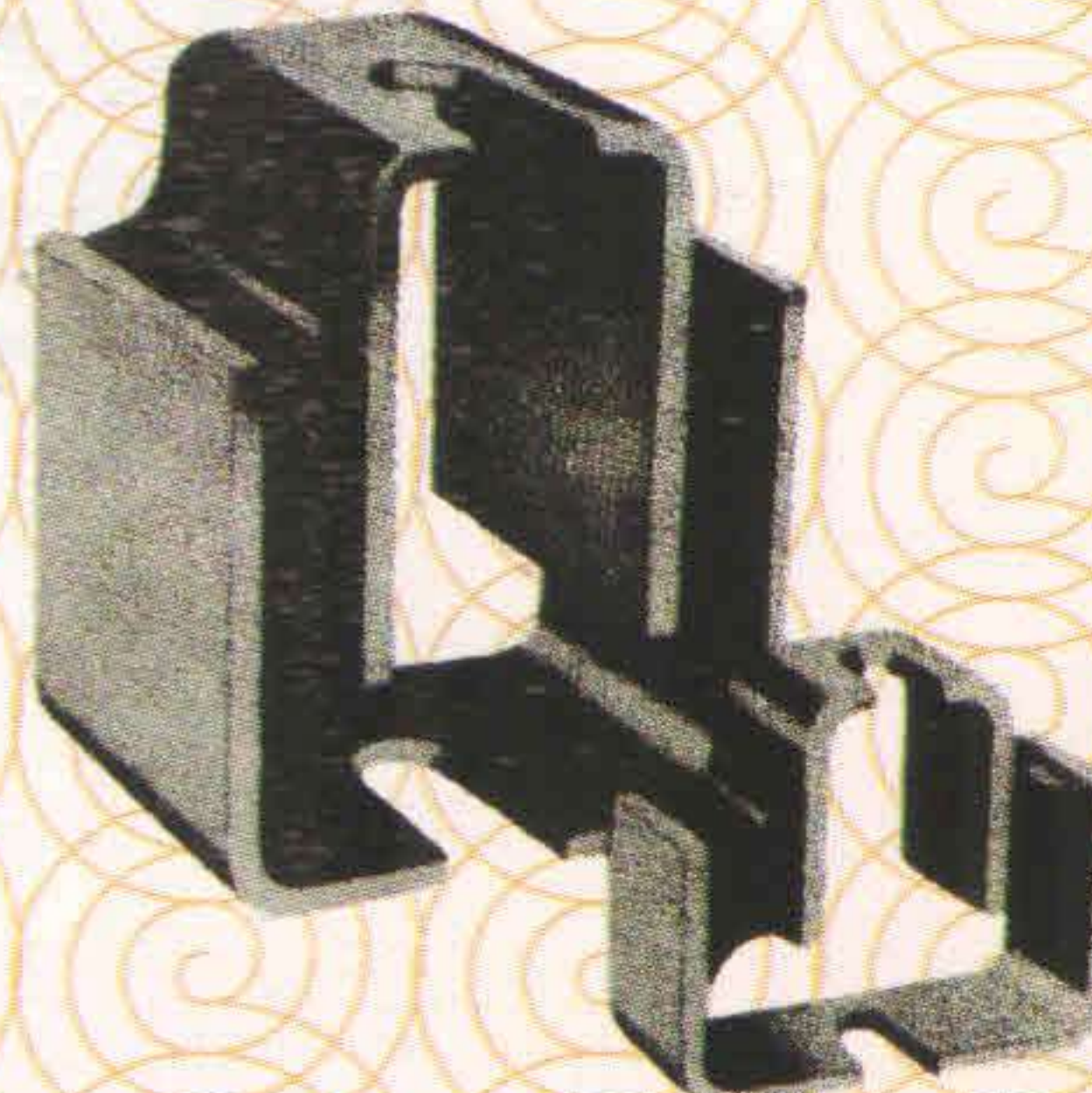
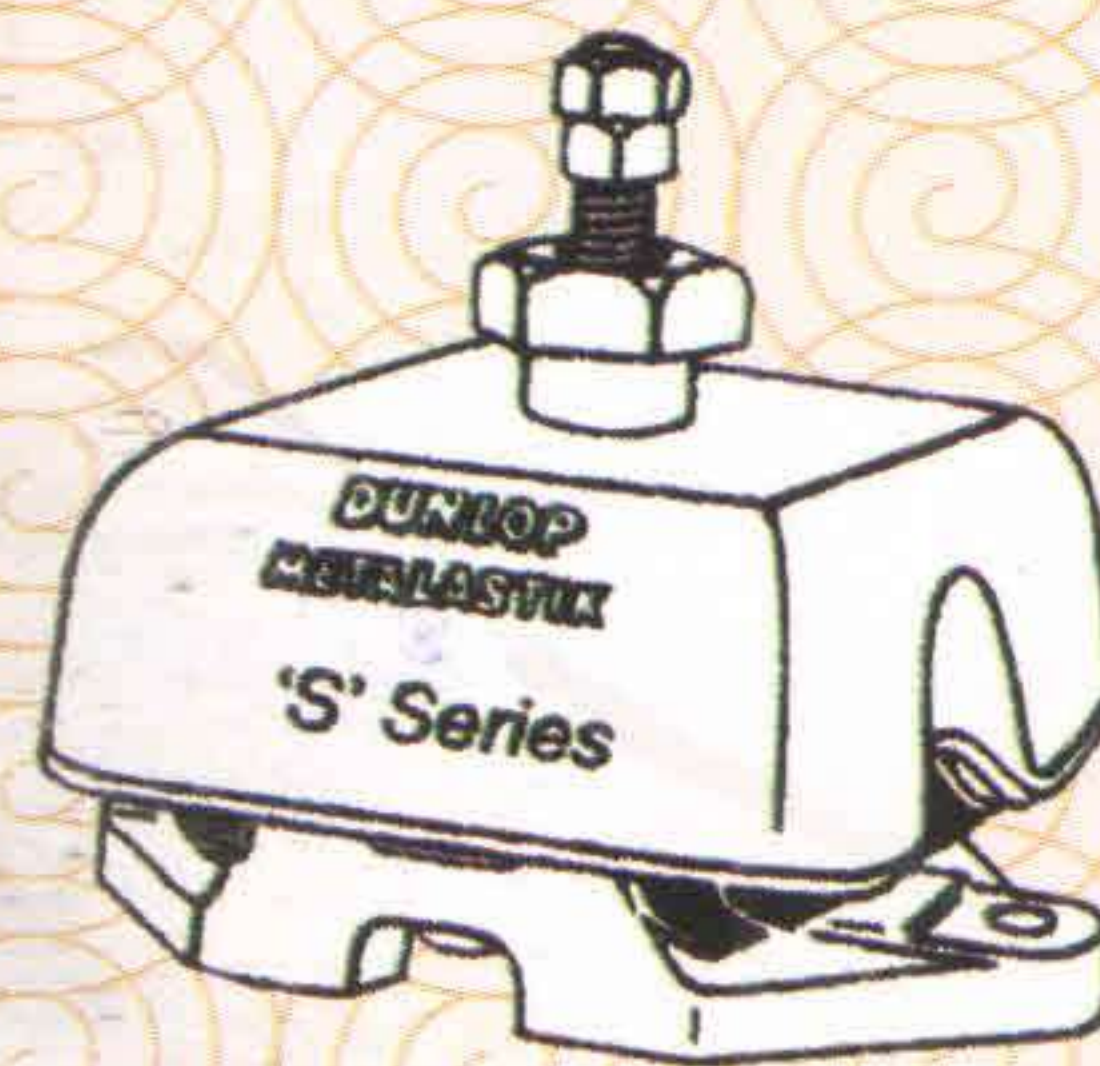


## Minimum Deflection To Give Adequate Insulation

Disturbing Frequency		Deflection
c.p.m.	Hz.	mm
400	6.6	25*
500	8.3	16
600	10	11
700	11.7	9
800	13.3	6.5
900	15	5
1000	16.7	3.8
1200	20	2.8
1400	23.3	2.0
1600	26.7	1.5
1800	30	1.3
2000	33.3	1.0

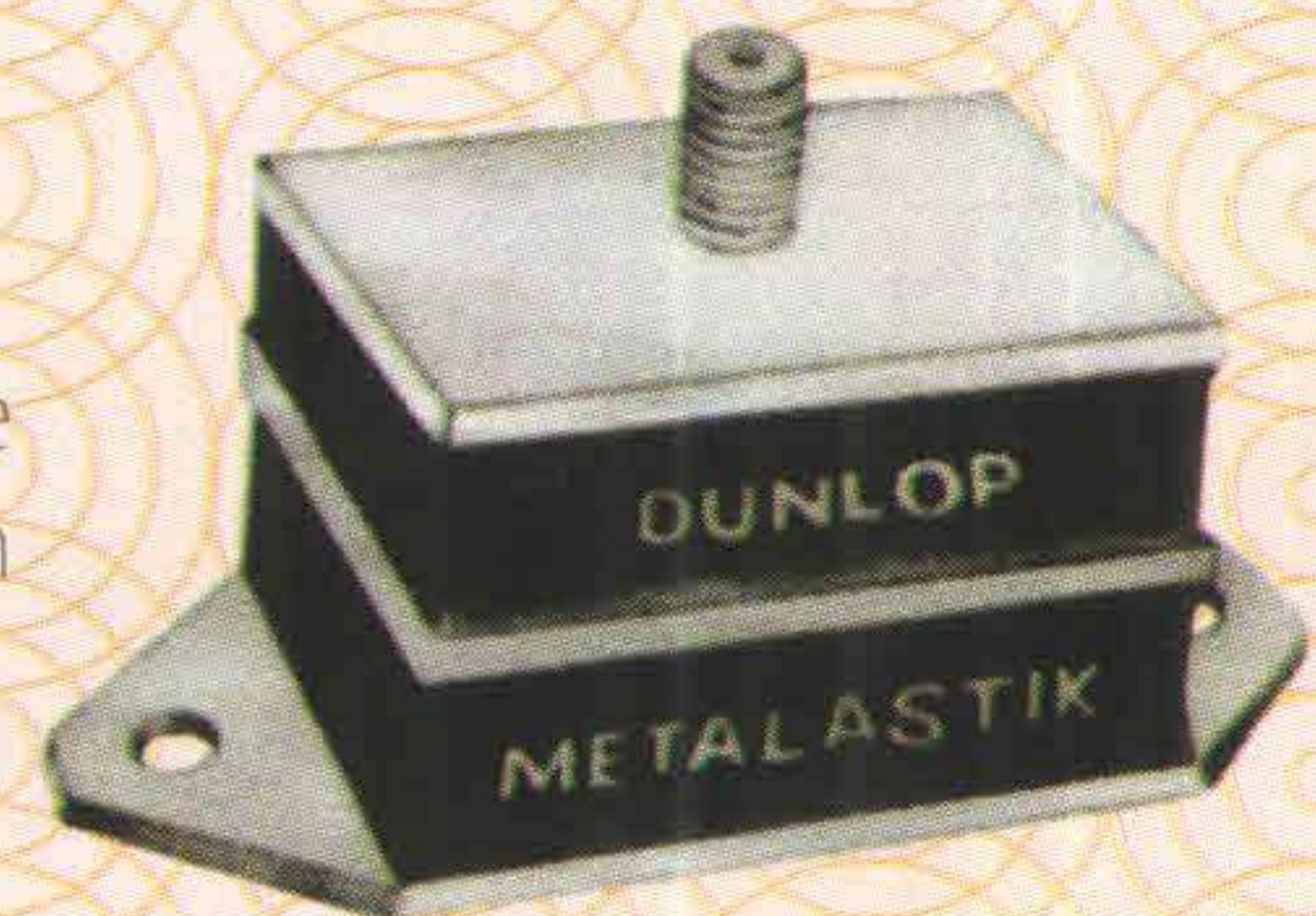
## Load Range

Series	Kgs/Mounting
A (17/290)	75 - 320
B (17/213)	270-1600
High Deflection (17/346)	630 1280
S (17/645)	250 - 1800



## Load Range

Type	Kgs/Mounting
17/355	10-100
17/1225	5 - 50
17/354	20 - 200



## Double - U Shear :

Available in three different sizes. Double - U shear mountings can be used with advantage on instruments and electronic apparatus, protecting equipment in packing cases, suspending light components recorders in a vibrating equipment, electrical control panels, suspending ducts and pipelines. Can be pre-compressed and used as buffers.

## Rectangular Sandwich Mountings :

Available in three sizes. Can be fitted under direct compression/shear or at different inclinations to suit diverse application requirements. Ideal for suspending small engines for mobile applications, hoppers, heavy installation carrying construction etc. Maximum load carrying capacity 1000kg. in direct compression and 200 kg. in direct shear.



## Metacone Mounting :

Most versatile for mobile applications. Used to mount engines on automobiles and hydraulic equipment-both static and mobile, equipment on rails, transportation of equipment etc. Excellent shock resistance capabilities. Maximum load carrying capacity 500kg. Available in two types having different fixing arrangement.

## Two-bolt Instumountings :

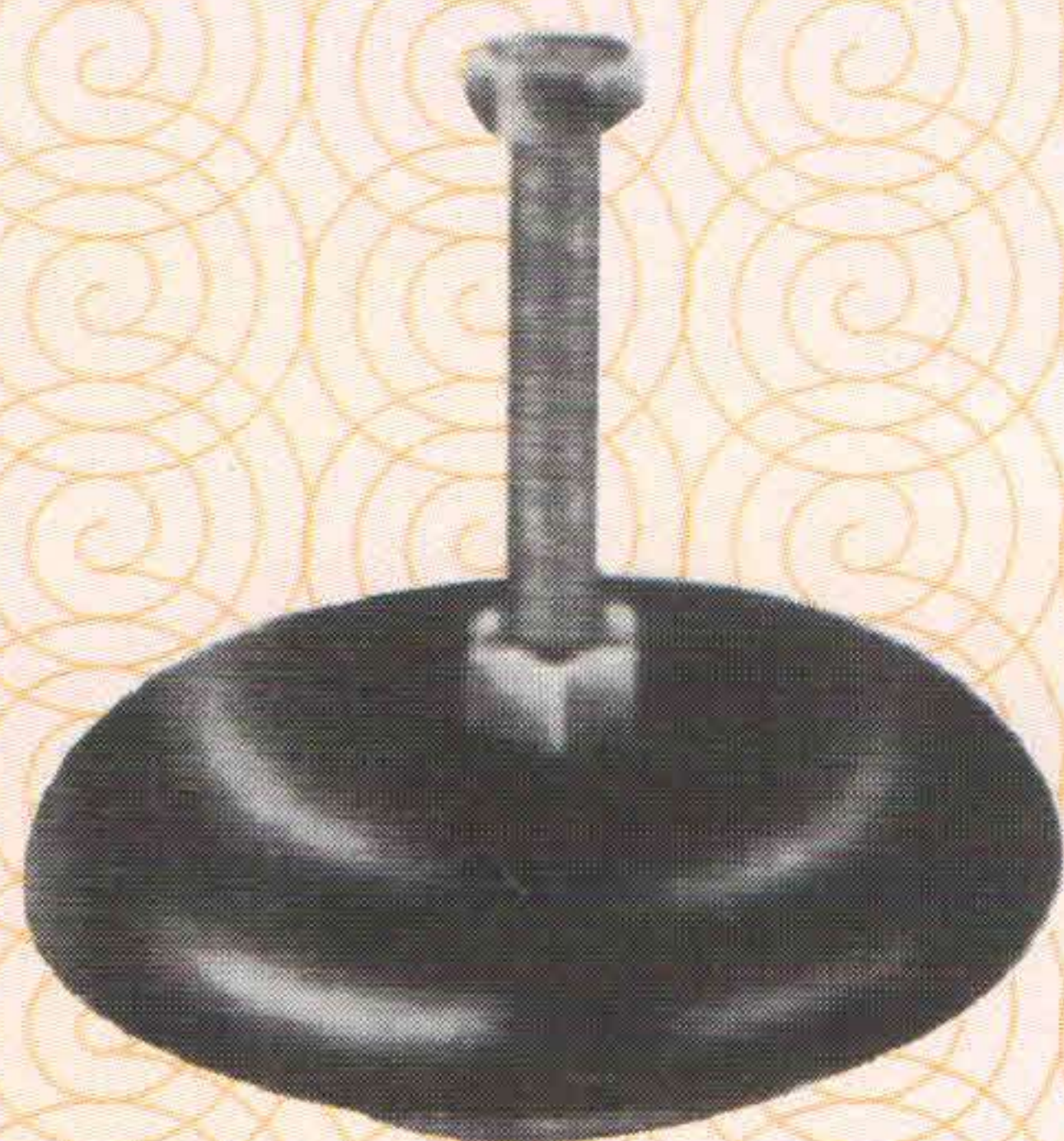
Highly useful in light-fittings, particularly vapour lamps and high-bay fittings, radiator mountings, small electronic recorders. Maximum load carrying capacity 45 kg in compression and 18 kg in shear.





### Equi frequency Mountings:

Provide same stiffness in all the three directions. Can be used in case of space limitations for light weight applications. Low height enables control panels, measuring Instruments, recorders to be Isolated from vibrations both for static and mobile applications. Maximum load carrying capacity 60 kg.

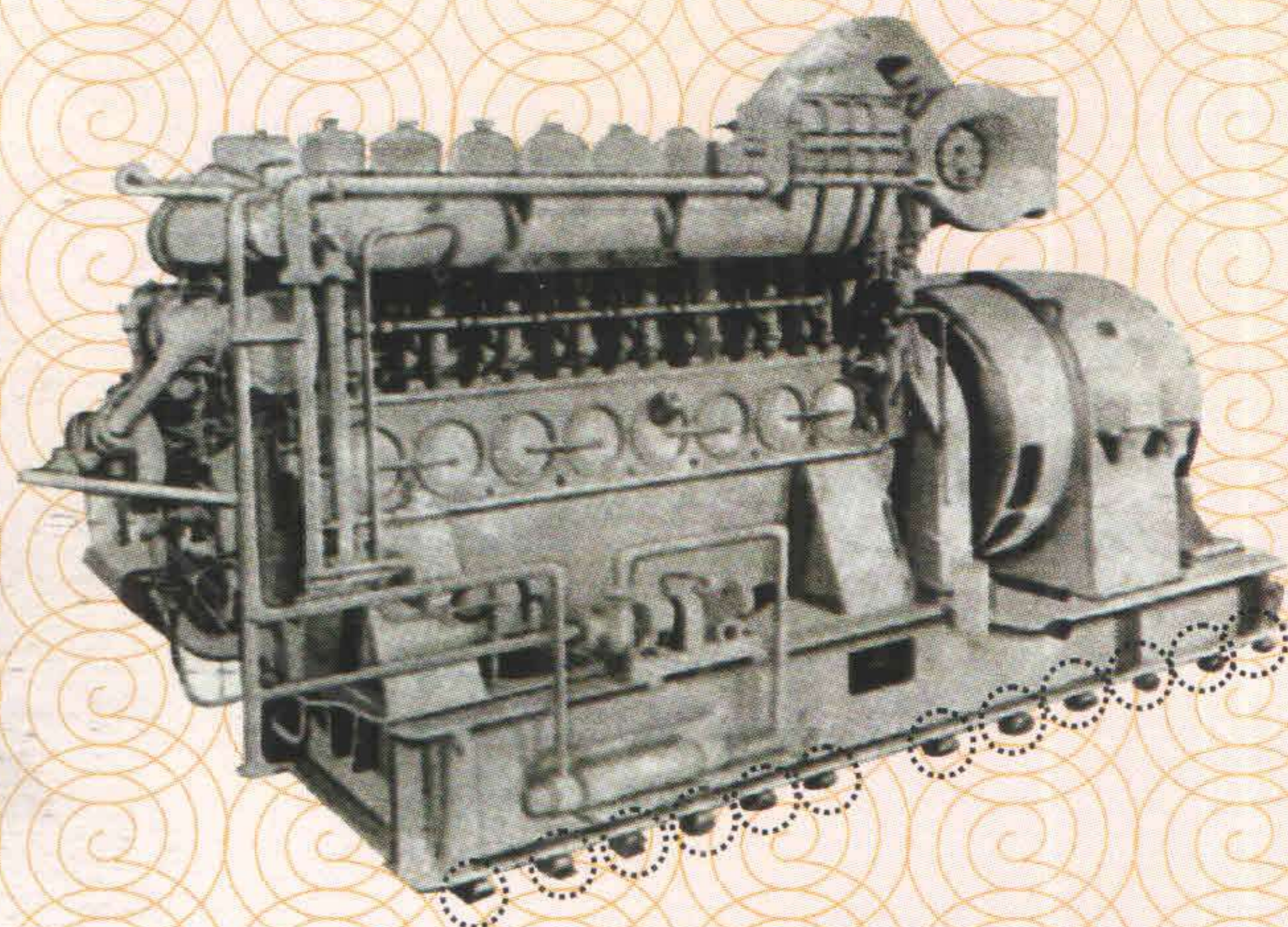


### DUNLOP CIRCULAR MOUNTS :

are low height in construction, which is desirable when "Slenderness ratio" is high. Provision can be made to incorporate a built-in leveling device which is much necessary for most of the applications. Special construction eliminates the necessity of foundation bolt, making installation easier and less time-consuming. These mountings are ideally suitable for machine tools, Presses and Equipments with low base area (about 1 sq. mts.) but height more than 1.5 meters.

### Shock Applications :

When Cushyfoot mounting are used with generator and other equipment on vehicles or ships, they should be fitted in conjunction with buffers to limit movement.



**COCKETILL diesel generator set on Cushyfoot**

### Applications :

The many different types of machine vibration Isolated with Cushyfoot mounting Include

1) Centrifuges Compressors 2) Crushers 3) Diesel Engines 4) Engine Test Beds 5) Exhaust Systems (Pipe Supports) 6) Fans and Blowers 7) Food Processing Machinery 8) Generators 9) Hammer Mills 10) Hydraulic Machinery 11) Lift Winding Gear 12) Mining Machinery 13) Polishing Machinery 14) Presses (Metal Forming) 15) Printing Machinery 16) Pumps 17) Rotary Driers and Sifters 18) Screens 19) Shearing Machines 20) Textile Machinery 21) Vibrating Conveyors 22) Equipment protected from External vibration and shock impulses by Cushfoot mountings (include precision grinders, large instrument panels, metrology equipment, radar and other heavy electronic installations.)

### Note :

Continuous developments & improvements are made from time to time and details given in this leaflet are subject to change. Please contact our nearest Dunlop Office for details and assistance in proper selection and ordering of Dunlop Cushyfoot mountings.

## INDIA TYRE & RUBBER COMPANY (INDIA) LTD.

Berger House, 5th Floor, 129 Park Street, Kolkata - 700 017, India

Phone : 033 4067 5011 / 4003 3148

Website : [www.dunlopconveyorbelt.net](http://www.dunlopconveyorbelt.net) | [www.indiatyre.net](http://www.indiatyre.net)

CIN : U255190WB1938PLC150983



# DUNLOP

**Authorised Dealer**

**Dunlop is Dunlop. Always ahead.**