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MECHANICAL EQUIPMENT

Products

Rubber Pads & Mounts

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Vibration & Rubber
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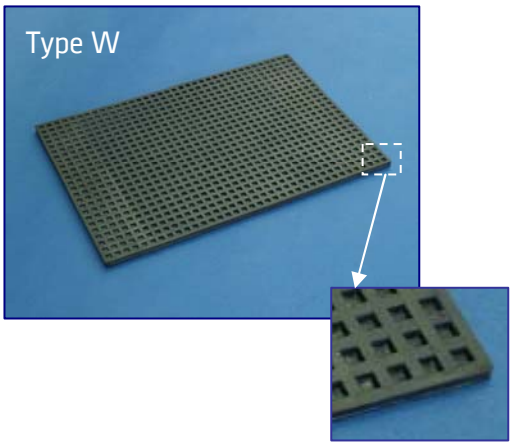
Type W and NK Rubber Pads



Rubber pads are convenient for reducing vibration and noise in non-critical areas, usually ground floors and basements in applications that do not require the extra efficiency of rubber or spring mounts. They are inexpensive and useful for providing a friction grip that eliminates the need for bolting equipment down.

In the early days of vibration control cork pads were the most popular material. Cork has now been largely displaced by rubber which is more durable and versatile and is available with alternative hardness.

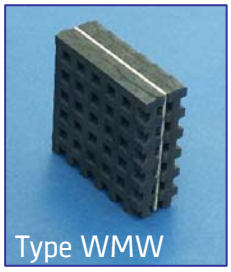
The Type W and NK Rubber Pads were originally designed by Mason Industries, Inc in the USA in the 1950's and improved over the years and now also manufactured locally by ACTOM Mechanical Equipment.

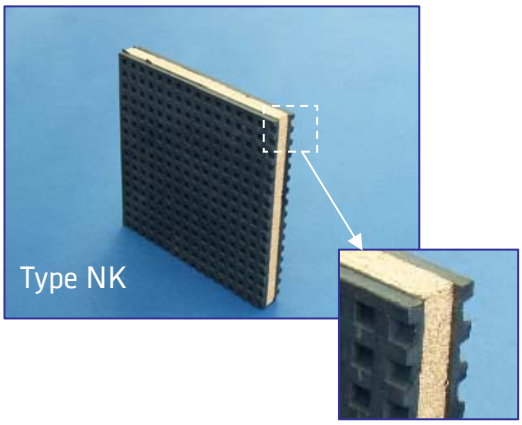
In general we recommend natural rubber for anti vibration pads, because it has better dynamic properties than any synthetic rubber. The grades of natural rubber that we use are compound with additives to enhance resistance to oxidation, ozone and sunlight.

Of course rubber pads cannot be just flat sheets of rubber. They must have a pattern that leaves spaces into which the resilient elastomer can flow or distort. This is the Waffle design. This design confines dirt or contaminations to the perimeter, does not collapse when overloaded and provides more friction grip. The waffle squares are at 12.5 mm centres which makes it easy to cut off any required size without measuring.

Type W Waffle Pad is 12 mm thick and is available in sheets of 300 mm x 450 mm, or can be supplied cut to any smaller size. It is stocked in 40 and 60 shore hardness natural rubber. Other hardnesses and other elastomers can be quoted. In 40 hardness the load capacity is 3 to 5 kg/cm^2, in 60 hardness 6 to 10 kg/cm^2. Select the softer material for vibration efficiency, the harder material for economy.

Type WMW Pads are made by bonding Waffle Pads to steel plates. The *Type WMW* sandwiches a steel plate between two Waffle Pads when bolting down is not required. *Type WM* is used when the equipment must be bolted down. Any hole size can be specified.





Type NK Pads comprises a 12 mm thick cork layer sandwiched between two rubber pads. While not efficient for reducing vibration they have a useful acoustical performance.

NK Pads, 25 mm thick, are available cut to any size up to a maximum of 300 mm x 450 mm. They are rated for loading at 3.5 kg/cm^2.

Type W and NK Rubber Pads

Load Capacities Type W

Size [mm]	Max Load [kg]	
	40 Hardness	60 Hardness
50 x 50	125	250
100 x 100	500	1000
150 x 150	1100	2200
200 x 200	2000	4000

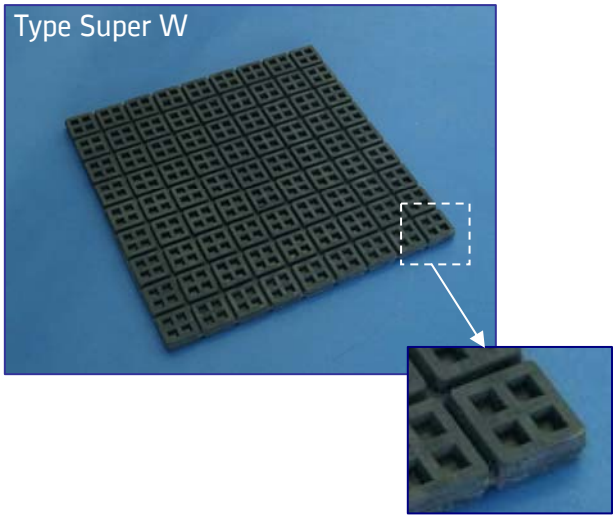
12 mm thick
300 mm x 450 mm sheets
Cut up to any size
40 hardness rated at 3 to 5 kg/cm^2
60 hardness rated at 6 to 10 kg/cm^2

Load Capacities Type NK

Size [mm]	Load [kg]
75 x 75	200
100 x 100	350
150 x 150	800

25 mm thick cork
300 mm x 450 mm sheets
Cut up to any size
Rated at 3.5 kg/cm^2

Type Super W Rubber Pads



The problem with conventional rubber pads is that on the one hand you want a thick pad to achieve more deflection and therefore more vibration isolation efficiency. On the other hand you are limited to a relatively thin pad that is not too difficult to cut to size.

Cutting a rubber pad thicker than 10 mm is difficult and even dangerous with an open knife. That limits deflection to about 1 ½ mm without overstraining the rubber.

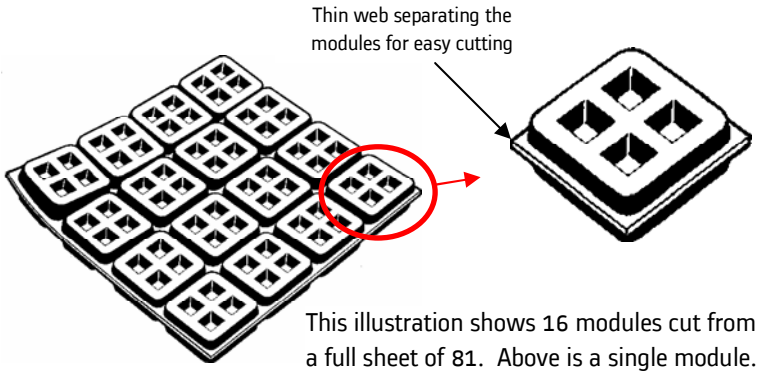
Mason Industries Inc, USA solved this problem with a clever and exclusive idea when they introduced the Super W Pad which is now also manufactured locally by ACTOM Mechanical Equipment.

The Type Super W pads are moulded in sheets of 81 modules, each one is a "mini-waffle", 50 mm square. The modules are separated by a thin web that is easy to cut, making it practical to increase the pad thickness to over 20 mm and increase deflection to 3 mm.

Type Super W Pad is stocked in 40 and 50 hardness natural rubber or chloroprene (neoprene). Choose the softer rubber for extra efficiency, the harder rubber for economy. Choose Neoprene for superior oil resistance.

Type Super W Pad is the most versatile and efficient rubber available.

We can also supply a special grade of chloroprene called "Bridge Bearing Neoprene" for architectural and structural applications (rubber used for bridge bearings must last for the entire life of the structure).



This illustration shows 16 modules cut from a full sheet of 81. Above is a single module.

Type Super W Rubber Pads

Load Capacities Type Super W

Hardness	Max Load Per module [kg]
40	50
50	75

It is easy to work out the number of modules you need and to cut them off in a convenient shape. *For example*, if you have a machine mass of 1200 kg your choice is between 24 modules of 40 hardness and 16 modules of 50 hardness. If you decided on 24 modules and if the loading were uniformly distributed, you would put 6 modules in each corner. You could order them, or cut them off from a sheet yourself, in several shapes, for example :

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Type ND Rubber Mounts

Type ND mounts are one-piece mouldings with metal parts completely covered by rubber for corrosion protection. The tops and bases have a ribbed pattern to improve grip. Set screws and washers are supplied for bolting to the equipment. Although bolt holes are provided in case they are required for safety, in practice bolting to the floor is not necessary.

For applications that do not require the extra deflection of steel springs, Mason Industries *Type ND Rubber Mounts* are efficient, inexpensive and easy to install. The Type ND mounts were originally designed by Mason Industries, Inc in the USA in the 1950's and improved over the years and now also manufactured locally by ACTOM Mechanical Equipment.

ND Mounts Key Notes

- All mounts are double deflection
- Offer more than three times the deflection of pads
- Prevent noise and high frequency
- Isolate a wide range of equipment
- Supplied with cap screw and washer
- Bottom friction surface makes bolting unnecessary in most installations
- Stocked in natural rubber
- Conservatively rated to prevent overloading

Markets

- Air conditioning
- Industrial

Applications

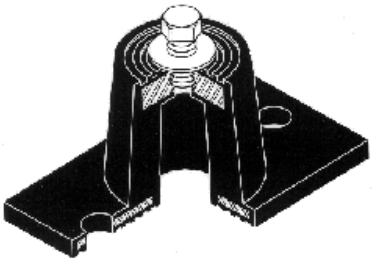
- Fans
- Pumps
- Compressors
- Stationary Gen Sets
- Chillers
- Aircon units
- Motors

Load & Deflection

The simple design loads the rubber both in shear and compression to produce a straight line load – deflection curve. Although designed for high static deflection Type ND mounts are conservatively rated to prevent overloading.

Material

Most sizes are stocked in natural rubber for superior dynamic properties, except type NDE which is stocked in neoprene (chloroprene) for better oil resistance. The natural rubber grades used are compounded with additives to enhance resistance to oxidation, ozone and sunlight.

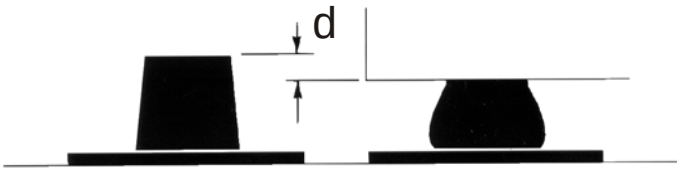


Over 50,000 Type ND mounts are in service in South Africa. They are not recommended for mobile, trailer-mounted or marine applications. They are efficient when loaded vertically in compression, but are not designed to be heavily loaded laterally.

Type ND mounts can also be used (without the set screw) under flat-based machines in the same way as rubber pads. They will be more efficient than pads and the extra ground clearance may be convenient.

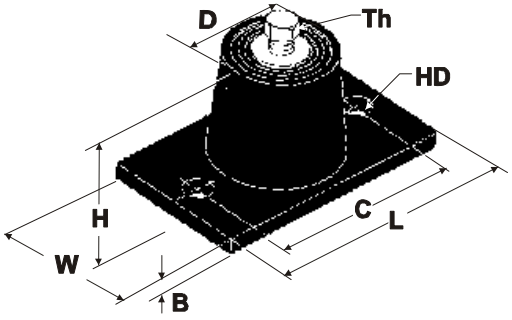
ND mounts can also be used upside down by bolting the flat base of the mount to the equipment.

Type ND Rubber Mounts



Selection Table

Size	Hardness [Shore - Color]	Load Range [kg]	Max Deflection – d [mm]
NDA	40 – green 50 – red	20 – 35 30 – 50	5
NDB	40 – green 60 – white	50 – 100 80 – 150	7
NDC	40 – green 50 – red 70 – yellow	70 – 125 110 – 225 200 – 375	10
NDD	50 – red 70 – yellow	300 – 475 400 – 750	10
NDE	70 – yellow	750 – 1500	10



Dimensions in mm

Size	Length L	Width W	Height H	Top Dia D	Thread Size Th	Base Thickness B	Bolt Centres C	Hole Diameter HD
NDA	80	43	35	30	M8	4	59	10.5
NDB	92	58	45	45	M10	5	76	10.5
NDC	140	83	70	65	M12	6	104	14
NDD	158	100	70	88	M12	7	128	14
NDE	186	130	70	115	M12	8	155	14

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