Iso-Sep 25HD High Dimple & 25F Flat

RUBBER ISOLATION PADS

APPLICATIONS: Mechanical Room Floating Floors, Housekeeping Pads, and Mechanical Equipment Pads

ISO-SEP 25HD & 25F is a high-quality sound, impact and vibration screed isolation mat. It is suitable for use under light to full-weight concrete, or alternatively it can be supplied as discreet isolators for lighter load applications, for example; floating-floors in building conversions.

ISO-SEP is made from 92% recycled automotive tires bonded with a permanently elastic polyurethane binder; the tire rubber is 100% post-consumer content. It does NOT contain PVC or formaldehyde and meets established Indoor Air Quality (IAQ) standards.

ISO-SEP is extremely easy to install. No training or special equipment is required. Roll it out, cut to fit, tape all seams, services and other penetrations and pour the concrete.

ISO-SEP 25HD

Is a one-inch dimpled one-side isolation mat that can be installed directly under concrete. The dimpled geometry reduces the contact area with the primary structural building components by over 90% while still maintaining even support and load capabilities. Floor assemblies constructed with ISO-SEP 25HD will produce a low-profile Sound Rated floor system.

One layer of ISO-SEP 25HD in a 4-inches over 8-inches concrete assembly achieves an STC rating of 69 and an IIC rating of 67. At allowable loading, one layer of ISO-SEP 25HD has a Natural Frequency of 13Hz. Two layers of ISO-SEP 25HD in a 4-inches over 8-inches concrete assembly achieves an STC rating of 71 and an IIC rating of 71. At allowable loading, two layers have a Natural Frequency of 10Hz. ISO-SEP 25HD can maintain loading to 1,020 lbs/ft^2. With loading by application up to 2,040 lbs/ft^2 .

ISO-SEP 25F

Is a one-inch flat on both sides isolation mat, typically used in heavier load applications, for example; foundation footings, isolation piers and inertia bases. One layer of ISO-SEP 25F loaded between 20 & 40-PSI will exhibit a Natural Frequency of 13Hz. Three layers of ISO-SEP 25F loaded between 20 & 40-PSI will exhibit a Natural Frequency of 8Hz.

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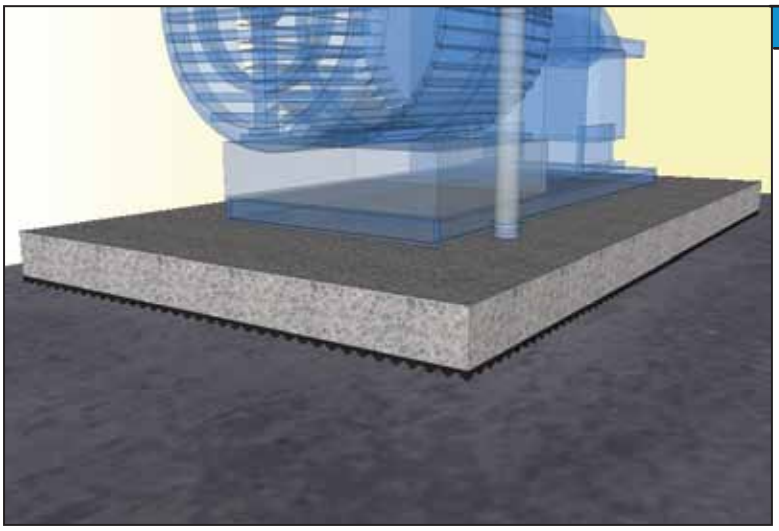


HOUSEKEEPING PAD ISOLATION

ISO-SEP 25HD

Installation for Housekeeping Pads typically consists of:

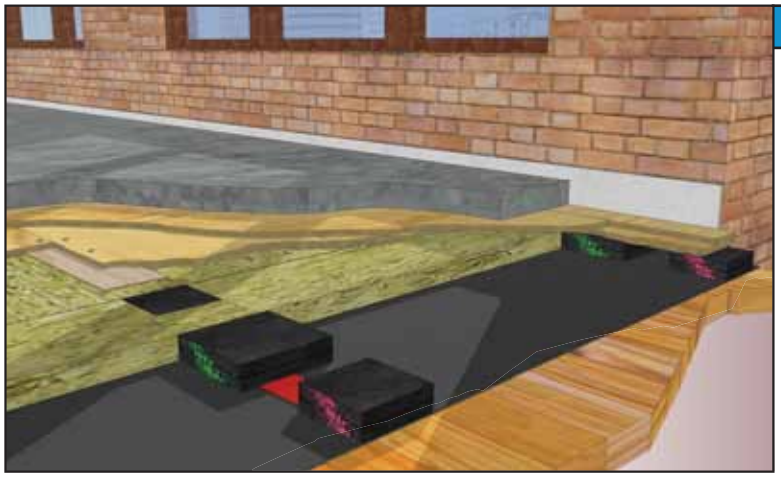
- One or two layers of **ISO-SEP 25HD**, an engineered (dimpled one-side) heavy-duty rubber isolation pad.

MECHANICAL ROOM FLOOR ISOLATION - 1 OR 2 LAYERS

ISO-SEP 25HD

Installation for Floating Floors (curbed or un-curbed) typically consists of:

- One or two layers of **ISO-SEP 25HD,** an engineered (dimpled one-side) heavy-duty rubber isolation pad.
- A closed-cell polyethylene Isolation Board **AF-PIB** for perimeter isolation of the floating concrete at walls, and service penetrations.



DISCRETE ISOLATION PADS

ISO-SEP 25HD

Installation for Floating Floors (on wood substrate) typically consists of:

- One or two layers of **ISO-SEP 25HD,** an engineered (dimpled one-side) heavy-duty rubber Discreet Isolator.
- Custom sizing available per loading.
- A closed-cell polyethylene Isolation Board **AF-PIB** for perimeter isolation of the substrate and floating concrete at walls, and service penetrations.
- A finish wearing-surface (topping) or other bearing surface. (By others)

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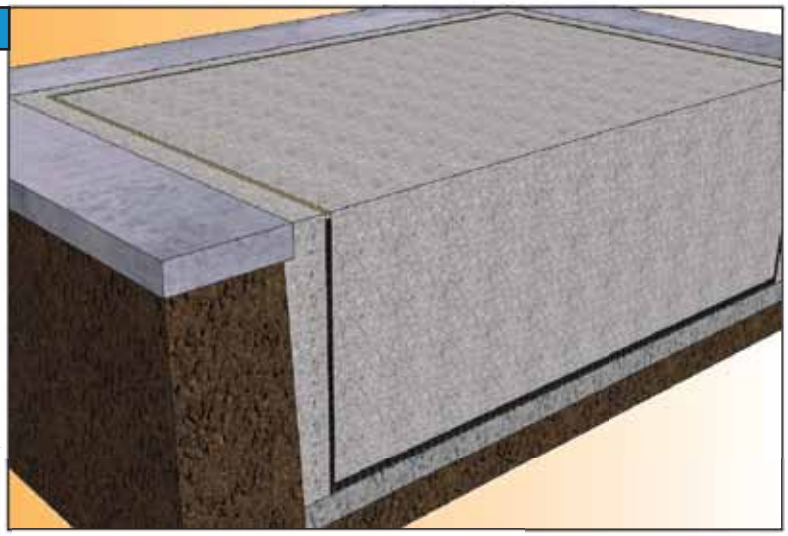
ISO-SEP 25HD

Installation for Inertia Base typically consists of:

- One or two layers of **ISO-SEP 25HD,** an engineered (dimpled one-side) heavy-duty rubber isolation pad, below the inertia base.

- One layer of **ISO-SEP 25HD,** an engineered (dimpled one-side) heavy-duty rubber isolation pad, around the perimeter of the inertia base.



INERTIA BASE ISOLATION

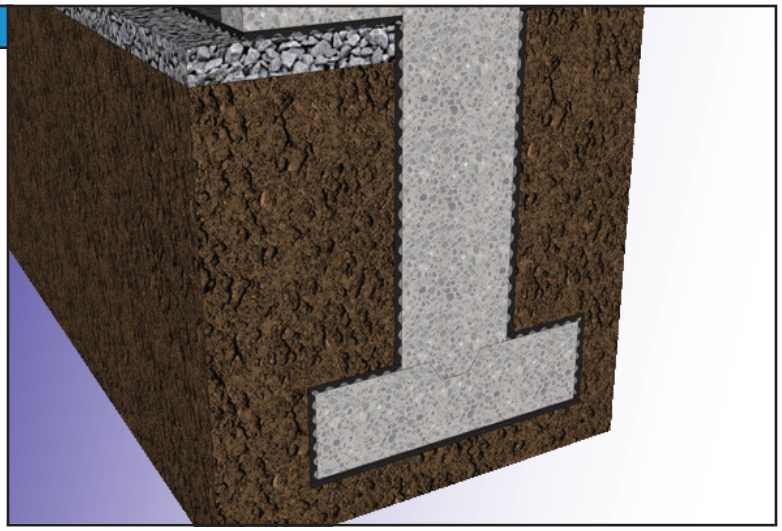
ISO-SEP 25HD & 25F

Installation for Footing and Foundation Wrap typically consists of:

- One or more layers of **ISO-SEP 25F,** an engineered heavy-duty flat rubber isolation pad, below the footings.

- One layer of **ISO-SEP 25HD,** an engineered (dimpled one-side) heavy-duty rubber isolation pad, wrapping the entire interior and exterior surface of the footings and foundation.

- One layer of **ISO-SEP 25HD,** an engineered (dimpled one-side) heavy-duty rubber isolation pad, below the interior floor slab.



FOOTING ISOLATION

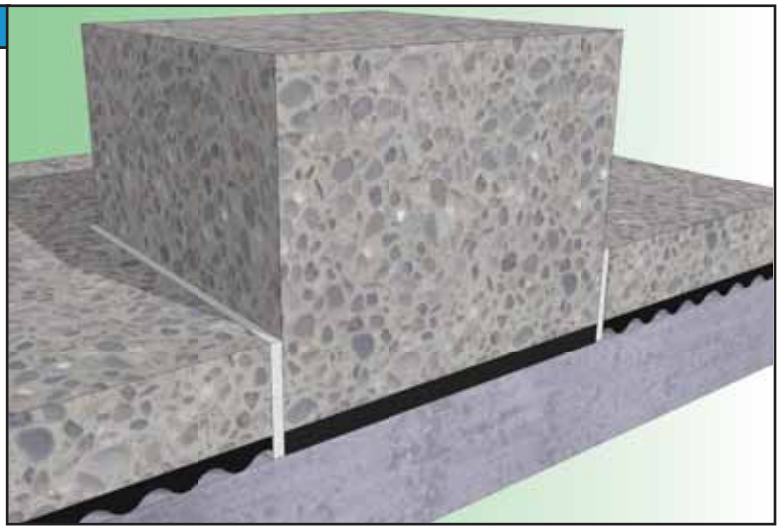
ISO-SEP 25HD & 25F

Installation for Isolation Pier typically consists of:

- One to three layers of **ISO-SEP 25F,** an engineered heavy-duty flat rubber isolation pad, below the pier.

- One layer of **ISO-SEP 25HD,** an engineered (dimpled one-side) heavy-duty rubber isolation pad, below the floating floor surrounding the pier.

- A closed-cell polyethylene Isolation Board **AF-PIB** for perimeter



HEAVY EQUIPMENT PIER ISOLATION

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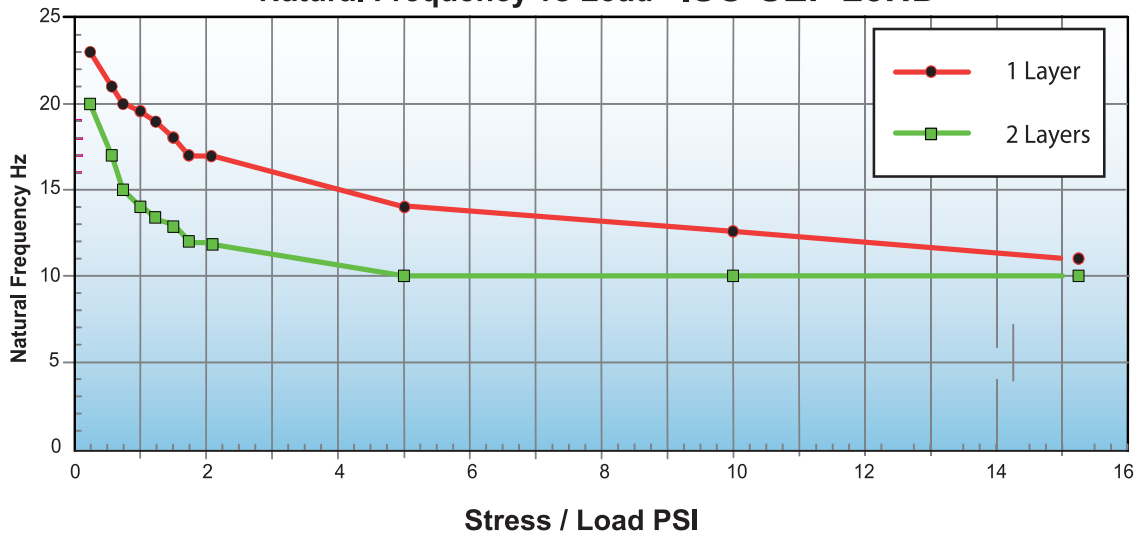
Natural Frequency vs Load - ISO-SEP 25HD



Stress / Load PSI

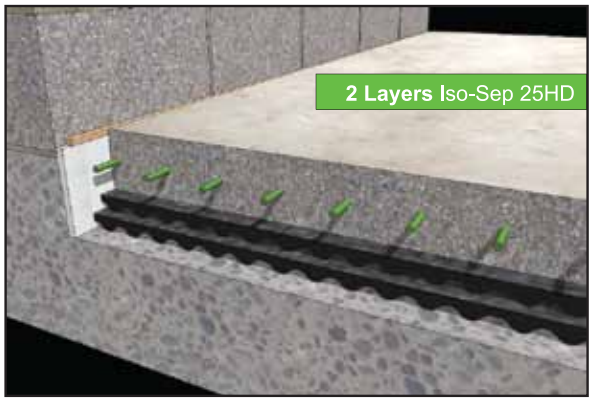
1 Layer Iso-Sep 25HD		
Load PSI	Deflection In.	Nat. Freq. Hz
0.25	0.04	23
0.52	0.06	21
0.75	0.08	20
1.00	0.09	20
1.25	0.11	19
1.50	0.12	18
1.75	0.13	17
2.05	0.14	17
5.00	0.23	14
10.00	0.33	13
15.00	0.40	11

2 Layers Iso-Sep 25HD		
Load PSI	Deflection In.	Nat. Freq. Hz
0.25	0.08	20
0.52	0.12	17
0.75	0.15	15
1.00	0.18	14
1.25	0.21	14
1.50	0.23	13
1.75	0.25	12
2.05	0.27	12
5.00	0.47	10
10.00	0.65	10
15.00	0.75	10

AS TESTED BY ARDL

NON - CRITICAL APPLICATIONS

CRITICAL APPLICATIONS



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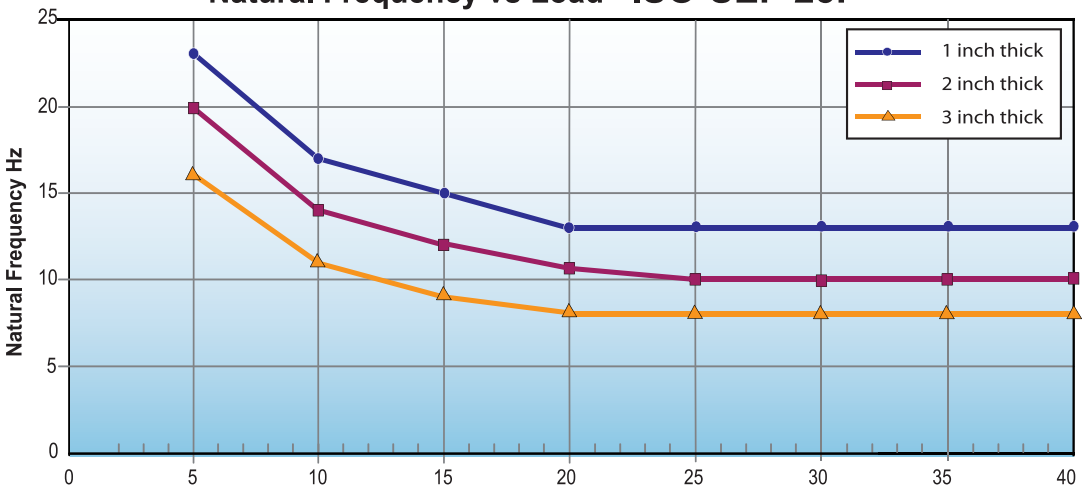
Natural Frequency vs Load - ISO-SEP 25F



1 Layer Iso-Sep 25F		
Load PSI	Deflection In.	Nat. Freq. Hz
5	0.025	22
10	0.062	17
15	0.100	14
20	0.141	13
25	0.181	13
30	0.220	13
35	0.253	12
40	0.284	13

2 Layers Iso-Sep 25F		
Load PSI	Deflection In.	Nat. Freq. Hz
5	0.054	20
10	0.109	14
15	0.128	12
20	0.175	11
25	0.322	10
30	0.394	10
35	0.452	10
40	0.526	10

3 Layers Iso-Sep 25F		
Load PSI	Deflection In.	Nat. Freq. Hz
5	0.085	16
10	0.179	11
15	0.280	10
20	0.390	9
25	0.480	8
30	0.66	8
35	0.678	8
40	0.795	8

AS TESTED BY ARDL

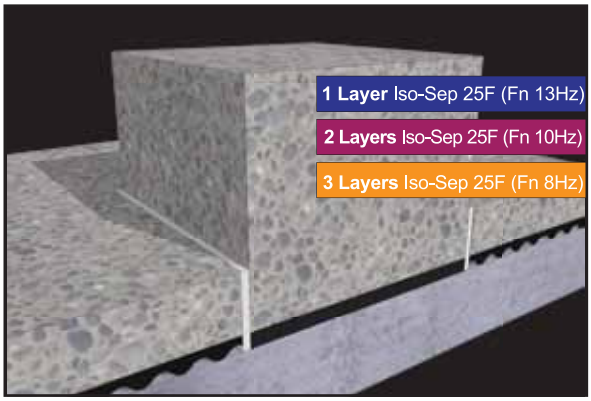
Test Floor - 100 mm Concrete Topping Over 200 mm Base Slab

As Tested on Jan. 26th 2017.

By: NATIONAL RESEARCH COUNCIL of CANADA

	Concrete Topping STC	Base Slab IIC
Base Slab	59	31
1 Layer Iso-Sep 25HD	69	67
2 Layers Iso-Sep 25HD	71	71

HIGH LOAD FOUNDATIONS AND PIERS



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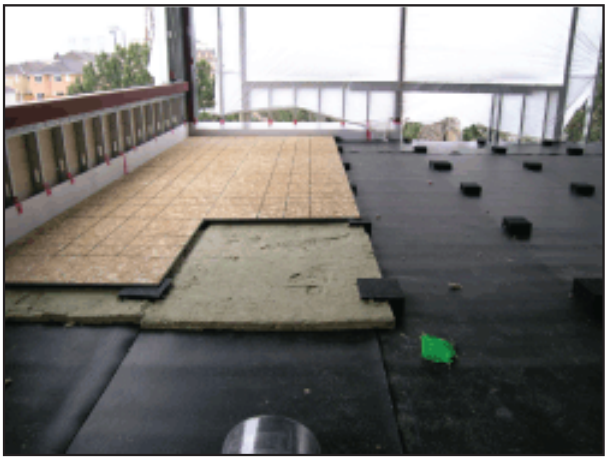
Building piers isolated from ground borne vibration. 1 - 3 layers of **Iso-sep 25F** for the base.



Building converstion floors using mass loaded vinyl to seal existing structure and a discrete isolator floating floor system.

Building footings isolated from ground borne vibration using single layer **Iso-Sep 25HD**. Fastener heads to be covered with isolation pads.

Critical applications use 2 layers **Iso-Sep 25HD** and Perimeter Isolation Board - example: Standby Generators over condo suites.

Properly isolated concrete pier for heavy equipment for example: chillers or cooling towers - **Iso-Sep 25HD** for lighter, and **Iso-Sep 25F** for heavier applications.

Non critical applications use single layer **Iso-Sep 25HD** and Perimeter Isolation Board. - Example: Pump Rooms

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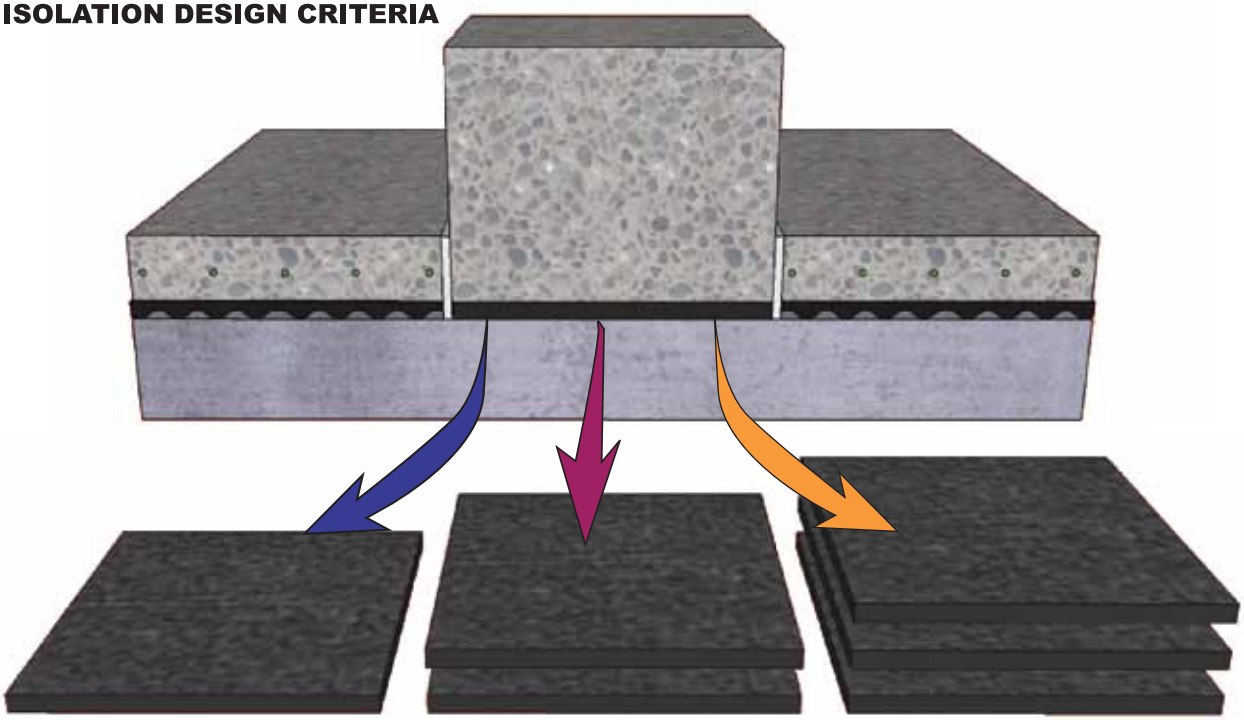
PIER ISOLATION DESIGN CRITERIA



1 Layer ISO-SEP 25HD
13 Hz. Natural Frequency

2 Layers ISO-SEP 25HD
10 Hz. Natural Frequency

3 Layers ISO-SEP 25HD
8 Hz. Natural Frequency

PIER SIZING CALCULATION

The size of the pier footprint is straightforward to calculate using the weight of the equipment and the support point configuration. The support points are typically individual feet or rails.

For most applications, **ISO-SEP 25F** (flat) material is used due to its higher PSI load capacity. Note that 20 PSI is considered an 'optimal' target load range. **ISO-SEP 25F** is capable of taking much higher PSI loads while maintaining constant Natural Frequency.

For the **ISO-SEP 25F**, a choice between 1, 2, and 3 layers will be made based on the required degree of isolation or desired Natural Frequency. (See charts on pages 5 & 6).

The lower the Natural Frequency the greater the vibration isolation efficiency.

E.g. For a cooling tower weighing 45,000 lbs., the sample calculations are as follows.

EQUIPMENT WEIGHT	=	45,000 LBS.
÷ 4 SUPPORT POINTS	=	11,250 LBS.
÷ TARGET LOAD OF 20 PSI	=	562.5 / SQ. INCH PER PIER
√ OF 562.5	=	23.71 (A 24" X 24" SQUARE PIER)

In most cases the weight of the concrete is inconsequential to the calculation unless design factors warrant extremely high piers – i.e. when a pier extends from one floor to a higher level. If the piers are to be high, add the dry weight of the high piers to the equipment weight and calculate as above.

*For equipment with relatively low weight over a larger footprint, **ISO-SEP 25HD** may be specified as an alternative to the **ISO-SEP 25F.***

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FEATURES

- 92% recycled rubber
- Meets all IAQ indoor air standards
- Qualifies for LEED points
- Bacteria, mold & fungi resistant
- Unaffected by water
- Can be safely loaded to 2,000 P/SF
- Thermally stable 0ºF - 350ºF (-17ºC - 176ºC)
- Roll in-place = fast install
- Requires no additional formwork

MAINTENANCE

No maintenance required.

ACOUSTIC PROPERTIES for ISO-SEP 25HD

STC Up tp 71
IIC Up to 71
(National Research Council - January 2017.)

PHYSICAL PROPERTIES

ISO-SEP 25HD

Weight	/ Sq. ft.	2.2 lbs.
	/ Sq. m.	10.7 Kg.
Roll Weight		145 lbs. 65.77 Kg.
Roll Dimensions		48-in x 15-ft 1.21m x 4.57m
Thickness		1-in 25mm
Type-A Hardness (ASTM D2240)		30 Durometer

ISO-SEP 25F

Weight	/ Sq. ft.	3.3 lbs.
	/ Sq. m.	16.2 Kg.
Roll Weight		198 lbs. 89.5 Kg.
Roll Dimensions		48-in x 15-ft 1.21m x 4.57m
Thickness		1-in 25mm
Type-A Hardness (ASTM D2240)		30 Durometer

NOTES

• **Iso-Sep 25HD and 25F** can be supplied with or without a polyethylene 'pouring film' adhered to one side. Please advise at time of order.

• If the **Iso-Sep** has not been ordered with a 'pouring film', a minimum 6-mil polyethylene sheet must be installed over the **Iso-Sep** before the concrete pour. All room perimeters and around services and other penetrations must be taped.

• **Iso-Sep 25HD and 25F** rolls, pads and discreet isolators Shall Be installed in accordance with written and/or illustrated instructions.

• **An AcoustiGuard - Wilrep Ltd. IIG** (Illustrated Installation Guide) is available for PDF download for installation details. Please contact **Wilrep Ltd.** for download details.

• Installations using **Iso-Sep 25HD and 25F** should be designed in co-operation with Structural and/or Acoustic Engineers.

• There are always several parameters that will contribute to the success OR failure of sound and vibration isolation systems. **Wilrep Ltd.** highly recommends that a Structural and/or Acoustic Engineer be consulted to review all details prior to installation.

HOW TO SPECIFY

1. Isolation Pad Shall Be **Iso-Sep 25HD or 25F** as supplied by **Wilrep Ltd.**

2. **Iso-Sep 25HD** Isolation Pad Shall Be installed 'bumpy side down' with seams tight and taped.

3. All **Iso-Sep 25HD or 25F** seams, room perimeters, services and other penetrations Shall Be taped to prevent the contamination of the isolation pad from concrete slurry AND to ensure the concrete pour DOES NOT short-circuit the isolating layer.

4. Isolation Board **AF-PIB** as supplied by **Wilrep Ltd.**, Shall Be installed against all room perimeters, services and other penetrations.

WARRANTY

Normal one-year warranty against faulty materials.

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