

Dampen Equipment Vibration Compensate for bowed skids

Un-dampened rotating equipment vibration can cause un-planned Maintenance and downtime.

A compressor skid will absorb only 10-15% of the produced vibrations. A compressor that cannot adequately transmit generated vibrations into its support structure will send those vibrations back into the compressor, affecting the weakest components. This often leads to excessive breakage of welded nipples, gauges, controllers, etc.

IsoPads[®]: Vibration Isolation and Dampening Pads

- Provides level and even surfaces that equalize weight distribution on support surfaces and compensates for slight skid bowing.
- Our Pads natural frequency of 10-12 Hz, can dampen as much as 50% of the vibrations generated by rotating equipment operation.
- Excellent at isolating and dampening secondary frequency vibrations. These vibrations can travel throughout a platform structure causing excessive noise and fatigue.

M-Squared "IsoPads" Isolation &

Dampening Pads


An In-expensive solution

Call for more information & custom sizing of your application

Jonathan Mann: Office (337) 406-8028, Cell (337) 280-8977

Custom Sizing of Each Application

When you call for a proposal, your equipment application is custom sized to insure that you get the proper isolation. Too much elastomeric support is just as bad as too little.



M-Squared Products & Services, Inc.
Emissions & Technical Solutions Through Cutting Edge Technology

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Quote# M2240101-0 Date: 1/1/2024

ISOpad Pad Sizing / Quotation

Client: Offshore Oil Company Location: OS GOM Block Project: Natural Gas Compressor #1 (ZAN-7100)	Contact: Mr. Customer Phone#: Equipment: ZAN-7100
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Total Equip Weight (lbs) 150000

Selected IsoPads Number Pads % of Weight Max Weight per Square	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">Red-ST</td> <td style="width: 25%;">4.0</td> <td style="width: 25%;">0.78</td> <td style="width: 25%;">240</td> </tr> <tr> <td>Black-WR</td> <td>4.5</td> <td>0.22</td> <td>90</td> </tr> </table>	Red-ST	4.0	0.78	240	Black-WR	4.5	0.22	90
Red-ST	4.0	0.78	240						
Black-WR	4.5	0.22	90						

No. of IsoPads	Number of Squares	Type	Square Footage	Weight per # Pads Used	Price per Pad	Total Sell
0.000	0	Blue-ST	0	0		
0.000	0	Black-ST	0	0		
8.000	400	Red-ST	13.3	116640	XXX	XXX
0.000	0	Green-ST	0	0		
0.000	0	Grey-S18	0	0		
0.000	0	Grey-S22	0	0		
0.000	0	Pink-S18	0	0		
5.000	365	Black-WR	10.125	32805	XXX	XXX
0.000	0	Brown-WR	0	0		
0.000	0	Brown-WR	0	0		
0.000	0	Red-WR	0	0		
0.000	0	Green-WR	0	0		
0.000	0	Grey-WR	0	0		
0.000	0	Purple-WR	0	0		
0.000	0	Pink-WR	0	0		

Contract Cement / GL	2.00	XX	XXX
Applicators	2.00	XX	XXX
3/8SS Shim plate 14"x 8"x 4"	0.00	XX	XXX
Engr for IsoPad Sizing & Layout	12.00	XX	XXX
Total			1 000

Results:

Deflection Constant (K _y)	151917	lbs./inch
Weight per Pad	14298	lbs./isolator
Total K _y	1599128	lbs./inch
Average Static Deflection	0.094	inch
Lowest disturbing Frequency (F _d)	20.00	Hertz
Vertical Isolation Natural Frequency (F _n)	18.21	Hertz
Transmissibility (T)	0.384	
Theoretical Isolation Efficiency (% eff)	70.8%	% efficiency

Notes:

- 1) Calculation based on total unit weight of 150,000 lbs (wet weight) @ 1200 RPM as provided by Customer.
- 2) All Pad placements are based on Customer supplied drawings. Customer should confirm Skid and Deck drawings are current "as built" to warrant viability of pad placement.
- 3) Typical Delivery for IsoPads is 10-14 Business days ARO, unless in stock.
- 4) Pad Placement drawings provided ARO/PO.
- 5) Above price does not include freight, dog clips or applicable taxes.
- 6) Includes IsoPads, 2-Gl Cement, and 2-applicators for field installation.

Formulas:

$$K_c = N \cdot K_s$$

$$F = \frac{W}{K_{dynamic}}$$

$$F_n = \frac{22500}{60 \sqrt{W}}$$

$$F_d = \frac{3.33}{\sqrt{T}}$$

$$\% eff = (100 - 100 \cdot T) / 100$$

$$T = \sqrt{\frac{[1 - (\frac{F_d}{F_n})^2]^2}{[1 - (\frac{F_d}{F_n})^2]^2 + 4(\frac{F_d}{F_n})^2}}$$

Note: The theoretical isolation efficiency is based on the highlighted characteristics (green & bold areas) and assumes an "infinitely rigid" foundation/subsurface.


We thank you for allowing us the opportunity to serve you.

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The pad section locations are then determined, based on available surface area, operating RPM, weight and component support requirements.

The drawing shows a rectangular skid deck with a grid of 16 IsoPad locations. The drawing includes dimensions and labels for the pad locations. Below the drawing is a customer information form with the M2 logo.

- Works on wood, concrete and steel.
- Can be stacked for bowed skids.
- Used in both land and offshore locations by major and independent production companies, as well as, Compressor and Generator manufacture / rental companies



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