WORKSHEET TO DETERMINE ISOLATOR STIFFNESS AND NATURAL FREQUENCY

The dynamic stiffness values presented in the tables on Pages 13-14 are based on a mount temperature of 68F (20C). To determine whether a particular ISOLOSS HD or VL isolator has the required dynamic stiffness for a particular application, simply use the Stiffness-Temperature Correction Graph below and follow these steps.

CALCULATING STIFFNESS WITH TEMPERATURE

1. Select an ISOLOSS HD or VL isolator for your application.

2. Consult the tables on Pages 13-14 to find the dynamic stiffness value for the particular isolator you have chosen. Use the value given for either *axial* (horizontal plate) or *radial* (vertical plate), depending on how the grommet will be used. For a sandwich mount, choose the value for *compression* or *shear* mounting.

3. Using the operating temperature of the application, find the temperature correction factor for the material you are considering from the graph below.

4. Multiply the dynamic stiffness value by the temperature correction factor to obtain the dynamic stiffness at the specified temperature of the application.

NATURAL FREQUENCY CALCULATION

The natural frequency of a particular E-A-R grommet or sandwich mount can now be calculated by using the dynamic stiffness calculated above.

$$F_n = 3.13 \sqrt{K \div W}$$

WHERE: F_n = Natural frequency of the grommet (Hz)
K = Dynamic stiffness (lb/in)
W = Load per grommet (lb)

Refer to Pages 11 and 12 for remainder of isolator performance calculations.

CALCULATION WORKSHEET

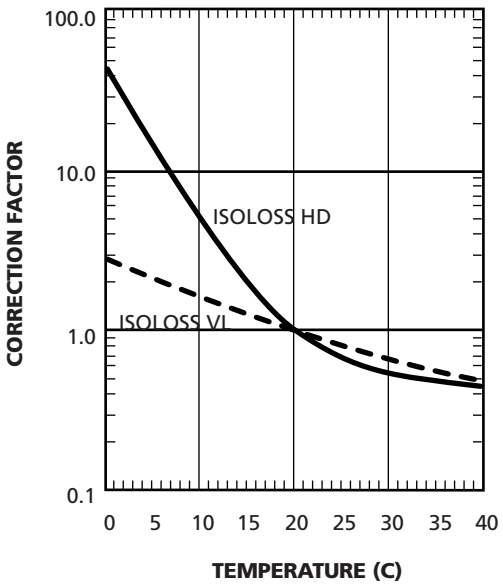
1. Choice of isolator _____
2. Weight/isolator _____
3. Orientation of the installed isolator _____
4. Dynamic stiffness of the isolator at 68F (20C) _____
5. Operating temperature of the application _____
6. Temperature correction factor _____
7. Multiply the dynamic stiffness value by the temperature correction factor _____ (lb/in)
8. Calculate natural frequency using equation provided below left.

EXAMPLE CALCULATION

1. Choice of isolator	G-411-H
2. Weight per isolator	= 3 lbs.
3. Orientation of the installed isolator	Axial mount
4. Dynamic stiffness of the isolator at 68F (20C)	= 1470
5. Operating temperature of the application	= 86F (30C)
6. Temperature correction factor	= 0.5
7. Multiply by the dynamic stiffness value by the temperature correction factor	= 735 lb/in

8. Calculate natural frequency: $F_n = 3.13 \sqrt{735/3} = 49$Hz
9. Refer to Pages 11 and 12 for additional isolator performance calculations.

STIFFNESS-TEMPERATURE CORRECTION GRAPH



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