

# Gripple Universal Clamp Vibration Test Report



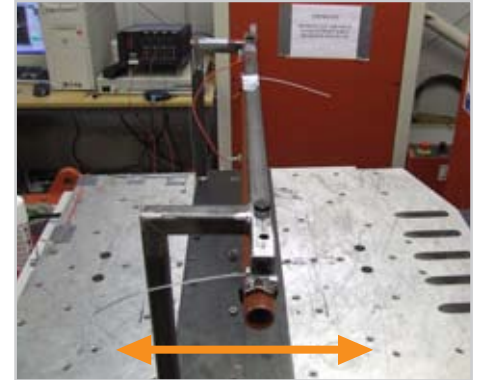
The Gripple Universal Clamp was subjected to a vibration test to compare the insulation properties against a typical proprietary pipe ring product. The test was carried out by PARC testing house, Devon, UK, on 4/02/2010.

## TEST CONFIGURATION

Testing was carried out in one axis only as depicted on the right. The resonances were logged into a computer and the peak resonances were logged into the charts contained in this report.

Exploratory Swept Sine Vibration:

- In accordance with: BS EN 60068-2-6
- Frequency Range: 5 – 2000 Hz
- Amplitude: 0.5 g peak to peak
- Sweep Rate: 1 octave minute
- Number of Sweeps: 1

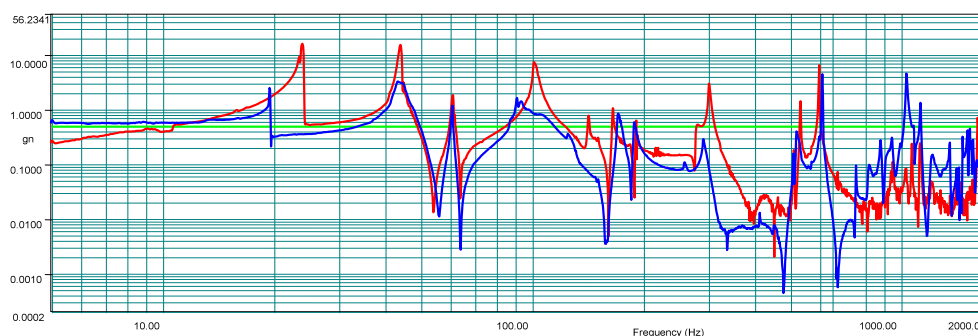


Arrow shows direction of vibration

## RESULTS

Four different versions of the Gripple universal clamp were tested (without insulation, with rubber foot, with rubber foot and insulation sleeve) on different diameters of pipe (Ø1" & Ø2½"), and compared with traditional pipe ring sizes of similar diameters. The samples were named A-E followed by 1 or 2 for the diameter of the pipe. A & B are the pipe ring product, and C & E are versions of the Gripple Universal Clamp.

Ref	Sample Description	Pipe Ø	Highest Peak	dB (gain)	Diff.
A1	Standard Pipe Ring without insulation	1"	18.8	145.51	A1/E1 = 69%
E1	Gripple Clamp without insulation	1"	5.8	135.27	
B1	Standard Pipe Ring With Rubber Insulation	1"	11.7	141.36	B1/C1 = 73%
C1	Gripple Clamp With Rubber Foot and Insulation Sleeve	1"	3.5	130.88	
D1	Gripple Clamp With Rubber Foot Only	1"	4.1	132.26	B1/D1 = 64%
A2*	Standard Pipe Ring without insulation	2½"	16.9	144.56	A2/E2 = 73%
E2*	Gripple Clamp without insulation	2½"	4.6	133.26	
B2	Standard Pipe Ring With Insulation	2½"	13.5	142.61	B2/C2 = 81%
C2	Gripple Clamp With Rubber Foot and Insulation Sleeve	2½"	2.5	127.96	
D2	Gripple Clamp With Rubber Foot Only	2½"	4.8	133.62	B2/D2 = 64%



\*The results from samples A2 (Standard Ø2½" pipe ring) and E2 (Standard Gripple Universal Clamp) are shown on this plot.

The green line on the plot shows the audible profile, i.e. above the green line, vibration becomes audible.

## CONCLUSION

PARC's testing of the Gripple Universal Clamp has shown that the product significantly insulates against the transference of vibration, as a result of using wire rope. The highest reduction recorded was 81%.

A conventional pipe ring is made up of several inflexible components, rigid in nature, and in consequence, are prone to transfer a higher level of resonance and vibration.

- Average Reduction in dB (gain): 11.3
- Average Reduction in peak vibration: 73%

The full report is available upon request.