

SLINGMAX® Technical Bulletin

Using Synthetic Roundslings in a Vibratory hammer Application

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This correspondence is in regard to a synthetic roundslings failure involved in a vibratory hammer application. It has been explained that a vibratory hammer application adds a minimum of a 5:1 shock load to a synthetic roundslings. There is no real world way to measure the energy being dampened and absorbed by the fibers in the bearing points of a roundslings while supporting a vibratory hammer. The failure that recently occurred was due to the roundslings being used for approximately 748 hours with 1600 vibrations per minute, during which the wear points in the roundslings were never rotated. Thus the bearing points of the roundslings were exposed to over 71 million cycles before it parted. Corrective actions and Recommendations:

1. Use a Safety Catch Sling: This catch sling is to be one foot longer than the roundslings being used to carry the vibratory hammer. In the event that the main sling fails, this safety catch sling shall have enough capacity to sustain the weight of the driver and the leads in order to safely set the load down.
2. Pay close attention to any embossed lettering on any fitting that would come in contact with the roundslings, and provide proper wear pad protection as necessary. Embossed lettering on hooks and shackles will eat through a sling very quickly with the intense vibration and force that is inherent in a vibratory hammer application.
3. Use slings that are at least 16' long. The longer the sling length, the more the energy will be displaced away from the bearing points into the body of the roundslings.
4. The roundslings should have a minimum of a 10-1 design factor when accounting for the weight of the vibratory hammer.
5. Any fitting used should also be at a 10-1 design factor and provide an adequate surface area to support the roundslings.