

Case Study: Acoustic vibration control seals for submarine stealth application.

Problem

No vibration control existed where pipework passed through decks and bulkheads. The resultant noise was unacceptable for stealth operations as it had the potential to give away the submarine's location.

No vibration control causing unacceptable noise

Application

Pipework location and isolation from vessel structure to ensure noise attenuation. Requirement needed to be easy to retro-fit, suitably fire-retardant and compatible with differing pipe sizes used onboard vessels.

Existing solution

No existing solution in place

James Walker solution

James Walker designed a 'u' section length-form gasket shaped to hold the pipe without gripping it. This was made available in three sizes to suit the majority of pipework options.

The product was manufactured from a fire retardant material and, whilst meeting all of the required physical properties, was also engineered to accommodate the unique vibration signatures of the pipework.

Fitting these seals solved the noise issue allowing silent running alongside other various stealth material applications employed on the vessel.



Results and benefits

This simple, well-engineered solution met and exceeded the customer's performance requirements. Unwanted operational noise eliminated and stealth submarines can now operate undetected.

Our solution exceeded the customer's performance requirements



Unwanted operational noise eliminated with a simple solution



Stealth submarines can now operate undetected



The customer's reputation as a stealth platform leader was enhanced on the back of this product design

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