



Since in 1969, AMC MECANOCAUCHO has been a pioneer in the design and manufacture of products for the reduction of noise and vibration in structures. The company produces a wide range of anti-vibration mountings based on metal, rubber and rubber springs. These also substantially reduce noise due to the use of the acoustic absorbent and muffling composite AKUSTIKABSORBER®.

AMC has purchased a PULSE™ Analyzer, a wide range of software and transducers to analyse the noise and vibration properties of its products.

A World Leader

Fig. 1
AMC's head office
at ASTEASU, Spain

Originally founded in 1969, AMC is a market leader in the design and manufacture of anti-vibration mountings. The company markets its products in a number of core industries. The company's head office at

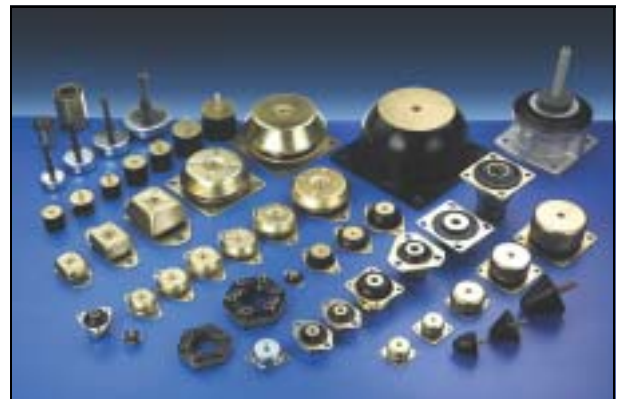


Asteasu in northern Spain, employs some 50 people. In addition, the company has sales representatives in a number of European countries and America.

Anti-vibration and Noise Mountings

Fig. 2
A selection of
AMC's wide range
of anti-vibration
mountings

The transmission of engine power in mobile and stationary machinery can result in destructive vibrations and noise. AMC designs and manufactures a wide range of anti-vibration mountings using metal, rubber and rubber springs for the effective reduction of vibrations. The mountings also substantially reduce noise due to the extensive use of AKUSTIKABSORBER®, an acoustic absorbent and muffling composite.



AMC's Technical and Quality Departments work jointly with customers using the latest technology including computer

aided design (CAD) and the calculation of finite elements (FEM). A major goal is to enable customers to fully comply with the latest regulations on acoustic pollution, including the recently introduced EU Directive on noise emissions.

AMC focuses on a number of specific market areas including:

- Electric power generation
- Air compression
- Liquid pumping
- Industrial vehicles
- Machine tools
- Marine propulsion and auxiliary equipment
- Agricultural and public-works machinery

AMC's anti-vibration mountings are available in various configurations to suit the specific application. Working with the customer, the origins of noise and vibration are determined. AMC proposes a solution that fits with the customer's product specifications, and all other relevant criteria including legislation.

Fig. 3
Jon Irazusta is the sound and vibration technician at AMC. Here he is using an impact hammer to check the vibration response of a damper



Jon Irazusta is the sound and vibration technician at AMC. Jon explains, "Until recently, we used a Brüel & Kjær Type 2232 Precision Sound Level Meter and a Type 2513 Integrating Vibration Meter to test the noise and vibration characteristics of our products. However, our testing needs have increased substantially and therefore we decided to invest in the latest state-of-the-art technology". Jon continues, "We have used Brüel & Kjær products since 1985. Their equipment has proved to be accurate and reliable. In addition, we get excellent support from the local Brüel & Kjær office and therefore it was natural for us to order a complete new test and analysis system from them".

PULSE Lite – a Complete System

The complete test and analysis system comprises:

- Type 3560 C-L3 (PULSE Lite with 4-channel FFT analyzer)
- Type 7782 G (2-channel CPB option)
- Type 7783 A (4-channel Run-up/Run-down analysis option)
- ENDEVCO 2304 Impact Hammer
- 3 × ENDEVCO 751-10 Accelerometers
- ENDEVCO Triaxial Mounting Block
- Tachometer Probe MM 0024
- Microphone Type 4188 A-021 (with TEDS – a Transducer Electronic Data Sheet is added to a traditional two-wire, constant current excited transducer and contains data on the sensitivity of the transducer. The advantages of a system containing TEDS include elimination of cabling and connection errors, identification and specification using digital communication, "Plug and play" technology for acoustic and vibration testing, reduction of setup time, simplification of calibration databases)

Jon says, “Now we will study the vibration characteristics of our products using modal analysis techniques with an impact hammer. We can now make measurements with the mounting installed in our customer’s products. So the portability of PULSE Lite is a real benefit when we have to make on-site measurements. We will also measure the vibration spectrum of the mounting and the vibration that is transmitted to the area where the mounting is attached. With the CPB option we can measure the noise spectrum and, with order analysis, this will help us to identify any failures caused by, for example, imbalance”.

The test data will also be extensively used in the design and development of new products.

User-friendly

*Fig. 4
PULSE Lite with its
laptop PC and a
large anti-vibration
mounting*



Jon says, “PULSE Lite is really quick and easy to use. The user interface is very intuitive and it can make all the tests and analyses that we need. If, in the future, our testing demands grow, then PULSE Lite can be easily expanded to provide more functionality, and this was another key reason for selecting it”.

Jon concludes, “We also like the ability to export data to Microsoft® Excel and it’s very easy to make reports”.

Key Facts

- Aplicaciones Mecánicas del Caucho was founded in 1969
- The company is a market leader in the design and manufacture of anti-vibration mountings
- The factory at Asteasu in northern Spain employs some 50 people. In addition, the company has sales representatives in a number of European countries and America
- AMC focuses on a number of core markets – electric power generation, air compression, liquid pumping, industrial vehicles, machine tools, marine propulsion and auxiliary equipment, agricultural and public-works machinery
- AMC has used Brüel & Kjær products since 1985
- AMC gets excellent service and support from Brüel & Kjær’s local office
- The company has invested in a complete noise and vibration test and analysis system based on PULSE Lite
- “PULSE Lite is really easy to use”
- Other key reasons for the purchase of the system include the ability to expand the measurement functions and easy export of data to Microsoft® Excel
- Test data will be extensively used in product development