SONEMAT

ULTRACOUPLE DRY COUPLANT

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Product Features

- Solid couplant for UT
- UT inspections without the mess of liquid couplants
- Compatible with all longitudinal UT probes
- Deformability for use on rough or uneven surfaces
- Mould to any size/shape or cast directly to probe

General information and introduction. Comes in a package (1.1kg) in 2 parts which requires mixing and degassing. Clear, piece, can be cut or moulded to any size/shape, deformable. Part A (base) and Part B (curing agent). Ultracouple is non-toxic and non-hazardous.

Applications

Energy Generation | Nuclear | Tanks and vessels | Pipelines | Oil and Gas

Ultracouple Dry Couplant revolutionises ultrasonic testing (UT) by eliminating the mess of liquid couplants. Ideal for many UT applications in the NDT sector, such as pipeline thickness gauging, it simplifies inspections and enhances accuracy. Its deformability ensures excellent contact on rough or uneven surfaces. In the aerospace industry, Ultracouple's ability to mould to any shape makes it perfect for complex component inspections. For robotic inspection systems, Ultracouple removes the need for water spraying.

Custom applications benefit from its clear, mouldable properties, and it can be cured onto a probe or sample if required using a suitable primer. It can be cast or cut to size easily. Packaged in two parts for mixing and degassing, it ensures consistent performance. Ultracouple is the ultimate solution for clean, efficient, and versatile UT inspections across various industries.

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Specifications

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Feature	Description
Ultrasonic velocity	≈ 951m/s (longitudinal)
Ultrasonic Attenuation	≈ 1dB/mm at 5MHz
Acoustic Impedance	≈ 0.99MPa
Density	≈ 1040kg/m^3
Temperature Range	-45°C TO +200°C
Working Time at 25°C	8 hours
Cure Time at 25°C	336 hours
Heat Cure Time at 100°C	75 minutes
Heat Cure Time at 125°C	30 minutes
Heat Cure Time at 150°C	20 minutes
Tensile Strength	7.6MPa
Tensile Modulus	7.3MPa
Elongation	105%
Tear Strength (Die B)	17N/cm^2
Durometer Shore A	51
Thermal Conductivity	0.16 W/mK
Volume Resistivity	1.61e^{15} Ohm-cm
Specific Gravity (cured)	1.03

Specifications

Feature	Description
Viscosity (Part A or B)	5.5 Pa-s
Viscosity (Mixed)	4.6 Pa-s
Dielectric Strength	19 kV/mm
UL Flammability Classification	94 V-1 NA
Shelf Life at 25°C	24 months

Instructions

A vacuum chamber is required to degas the mixture to remove all bubbles before casting.

The two components should be thoroughly mixed using a weight ratio of 10 parts base (compound A) to one part curing agent (compound B) Care should be taken to ensure this ratio does not vary by more than 10% since it will affect the physical properties of cured material.

To ensure bubble free finished coupling piece, it is usually necessary to remove entrapped air from the catalysed material by vacuum de airing the container for at least several minutes, followed by a visual check that there are no bubbles remaining in the mix. Air bubbles present in the set couplant will severely degrade its ultrasonic transmission properties. The mixed product will have a working life of over 1 5 hours at 25°C Fully cured in 75 minutes at 100°C.

Ensure you are aware of the Materials Safety Data Sheet (MSDS) included with the product.

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