



Ultrasonic Testing

Product Data Sheet

MR[®]757

One-Pack UT Coupling Powder

low to very high viscosity
for ultrasonic testing; dilution in water



The Method

Ultrasonic testing (UT) is a widely used method in non-destructive testing (NDT) to detect internal flaws in materials. Ultrasonic testing uses high-frequency sound waves (ultrasound) to detect imperfections or changes in material properties. When these sound waves encounter a boundary within the material, such as a crack or void, they reflect back to the surface where they are detected and analysed.

Description

MR®757 is a cost-effective couplant powder which can be mixed with water for a ready-to-use coupling gel providing strong, continuous, even film that adheres very well to vertical and overhead surfaces and is compatible with all metals and any kind of surfaces. It comes in compact, lightweight packets and are easy to carry and use.



Benefits

- One pack powder - Fast, lump-free mixing
- Quick Gel time at ambient temperatures in less than 5 mins
- Cost-effective
- Minimal Residue
- Salt Stable
- Easy removal with water
- Non-Toxic
- Compact and lightweight packets

Applications

Defect Location: Sub-Surface

Test Surface Type: Unfinished to Superfinished

Ideal for:

- Welds
- Steel Billets
- Ship Plates
- Corroded Parts
- Power Generation Boilers
- Large Volume Flaw Detection

Features

- Acoustically exact on vertical, horizontal and over-head surfaces
- Self and quick de-aeration
- Excellent coupling properties on smooth to rough surfaces
- Excellent consistency of gel upto 70 C.
- Best-in-class corrosion protection
- Blue tracer dye for homogenous mixing

Compliances

DIN EN ISO 25493

ASME BPVC (T-533)

FAA-AC #25-29 (Glycerin free)

AWS

API

Usage Instructions

NDT Method	Ultrasonic Testing
Carrier Media	Water
Equipments required	Ultrasonic Testing Machine, transducer
Recommended Usage*	+0°C to +75°C 32°F to 167°F
Recommended Dilution	55 g/L in water for an optimum viscosity
Note	The dilution can be altered depending on the viscosity required.
Compatibility	Most Composites & Metals

*Note: Coupling integrity and acoustic performance may decline beyond these temperature limits

Surface Preparation

Prior to inspection, it is essential to ensure that the surface of the part to be inspected is completely clean and free from any contaminants such as grease, water, dirt, or other substances that may have been present during manufacturing or pre-treatment processes. This is necessary to prevent any interference or impact on the accuracy and reliability of the test results.

Corrosion protection

MR®757 is formulated with corrosion inhibitors at low levels. These inhibitors provide adequate protection to parts during Ultrasonic testing.

To prevent corrosion, it is crucial to keep the parts clean and dry both before and after inspection.

For longer-lasting corrosion protection, it is recommended to apply a temporary protective film coating to cleaned components. It's important to note that the duration of corrosion protection depends on various factors such as the job type, working conditions, and pre and post-care of the test object.

Suggested Products

MR® 71: A solvent based cleaner for removing contaminants such as oil, grease and dirt

MR® 302: Corrosion Inhibitor

Physical & Chemical Properties

Appearance	Free flowing powder
Chemical Composition	Mixture of thickening agent, corrosion inhibitor, wetting agent and anti-foam emulsion.
Basis	Proprietary
Colour in visible light	White
Odour	Odourless
pH	8
Sulphur and Halogens	No
Propylene Glycol	No
Glycerin	No
Silicone	No

Gel Preparation

Mix MR®757 in an appropriate quantity (or follow the chart below) with water and mix until the particles are dissolved and mixture thickens (5-6 minutes is optimum). Allow the couplant to stand until a working viscosity is formed. While mixing avoid adding air bubbles to the water / couplant. Using warm water (100°F / 38°C) to prepare the suspension will help the product mix faster.

Viscosity [§]	Water
Low (2-3)	25 g/L
Medium (5)	35 g/L
High (6-7)	55 g/L
Very High (8)	65 g/L

§ Subjective measure, 0-10 scale where
0 = water, 5 =medium gel, 10 = very thick paste

Gel Removal

MR®757 features easy removability using water. However, it is recommended to remove couplant immediately after inspection before the couplant dries with water rinse or a combination of water rinse and brushing. A difficult-to-remove film may form if the couplant is allowed to dry before removal. Remove film by pressure washing, wire brushing or immersing the part in water until the couplant rehydrates and can be washed or brushed off.

Safety

Ultrasonic testing is generally safe when conducted by trained professionals who follow appropriate safety measures.

Wear the appropriate safety gears while using the product.

Please read the Material Safety Data Sheet before use!

(Available at: <https://www.3akchemie.com/resources-mrchemie>)

Scan To Download
TDS / MSDS / TC



Ingredients: Cellulose powder and other proprietary ingredients

Storage: Store MR®757 in an air-tight container, completely free of any moisture.

Notice

3AK Chemie makes no warranties expressed or implied, including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose. User is responsible for determining whether our product is fit for a particular purpose and suitable for users method of application.

Limitation of Remedies & Liabilities

If this product is proved to be defective, the exclusive remedy at 3AK CHEMIE's option shall be to refund the purchase price or to repair or to replace the defective MR® CHEMIE product. The company shall not otherwise be liable for loss or damages, whether direct or indirect, special, incidental or consequential regardless of the legal theory asserted including negligence, warranty or strict liability.

Packaging & Order Instructions

SKU	Pack Size	Case
2511-0209	55 g/1 Litre	20
2511-0210	225 g/5 Litre	4



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