



CGM CIGIEMME S.p.A.



Controlli Non Distruttivi - Non Destructive Testing

Product Code
01049050

Ref. no.
U51

**Product Data
Sheet**

COUPLANT U 51

PRODUCT DESCRIPTION

U 51 is a white water-based coupling gel, suitable for the most common applications under normal conditions of use for both defect and thickness inspections.

COMPOSITION

Free of nitrites and mineral oils. It is low in sulphur and halogens (< 50 ppm). Being glycerine-free, it complies with FAA AC 25-29. It contains anti-corrosive so as not to affect the surfaces under inspection.

N.B.: Like all CGM materials, U 51 is tightly controlled to ensure batch uniformity, optimal process verification and control reliability.

SPECIFICATIONS

- Excellent couplant, suitable for use on different types of surfaces.
- Excellent lubricant for ultrasonic transducers.
- Excellent wettability of the surface under inspection.

PACKAGING TYPE

- 5 kg buckets

APPLICATIONS

Couplants are used for ultrasonic NDT inspections to facilitate the transmission of sound energy between the probe and the workpiece.

Their use is necessary since sound energy, at the frequencies that characterise ultrasound used in non-destructive testing, is not transmitted into the air with satisfying intensity for UT testing. A very thin layer of air between the probe and the workpiece is enough to compromise transmission.

INSTRUCTIONS FOR USE

Apply uniformly to the surface to be inspected by UT method.

If necessary, remove with cloths or water at the end of the inspection.

BENEFITS

- Suitable for use in the petrochemical, automotive, aerospace and railway industries.
- The white colour allows easy identification of the residue and enables rapid cleaning of the test piece.
- It increases acoustic impedance, reducing surface noise.
- Non-toxic to the skin, free of dangerous labelling and not harmful to the environment.
- The presence of anti-corrosives prevents oxidation, so it is not essential to remove the gel after inspection.
- Suitable for steel, carbon steel, copper and its alloys, aluminium and its alloys, plastics and composite materials.



CGM CIGIEMME S.p.A.

Via Adda, 21 - 20073 Opera (MI) Italy - Tel.: +39 02 57.600.400 - Fax: +39 02 57.603.618

Web: www.cgm-cigiemme.com - Mail: cgm@cgm-cigiemme.it

N. Registro Imprese, C.F. e P.I.: 05732470967 - N. REA: Mi -1843908 - Capitale Sociale: EURO 500.000.00 I.V.

Informativa ex art. 13 D.Lgs 196/2003 e art. 13 del Reg. UE 2016/679 disponibile sul sito www.cgm-cigiemme.com, sezione "privacy policy"





CGM CIGIEMME S.p.A.



Controlli Non Distruttivi - Non Destructive Testing

PRODUCT PROPERTIES

	U 45	U 47	U 49	U 51	U 53	U 55+AC
Appearance	Transparent green gel	Transparent gel	Transparent gel	White gel	White gel	Powder for transparent gel
Glycerine content	No	No	Yes	No	Yes	No
Density at 20°	1.03 kg/l	1.00 kg/l	1.00 kg/l	1.03 kg/l	1.03 kg/l	NA
pH	8	7-8	7-8	7-8	7-8	~7
Usage temperature	From -20°C to 120°C	From 5°C to 80°C				
Recommended dilution in drinking water	From 0 to 1:1	From 0 to 1:1	From 0 to 1:1	From 0 to 1:1	From 0 to 1:1	33 g/L

Typical values.

RECOMMENDATIONS FOR THE USER

NDT method	Ultrasonic testing
Shelf life	3 years at a temperature between 5°C and 45°C, in a dry place out of direct sunlight
Usage temperature	From 5°C to 80°C

COMPLIANCE WITH STANDARDS

- ASME V Art. 5 (T533)
- FAA AC 25-29 (glycerine-free)
- MIL-STD-271
- PMUC (certificate of conformity on request)

HEALTH AND SAFETY

Read all health and safety information before using this product. This information can be found in the Safety Data Sheet, available on request.

Rev. 03 – 04/09/2025



CGM CIGIEMME S.p.A.

Via Adda, 21 - 20073 Opera (MI) Italy - Tel.: +39 02 57.600.400 - Fax: +39 02 57.603.618

Web: www.cgm-cigiemme.com - Mail: cgm@cgm-cigiemme.it

N. Registro Imprese, C.F. e P.I.: 05732470967 - N. REA: Mi -1843908 - Capitale Sociale: EURO 500.000.00 I.V.

Informativa ex art. 13 D.Lgs 196/2003 e art. 13 del Reg. UE 2016/679 disponibile sul sito www.cgm-cigiemme.com, sezione "privacy policy"

