



CGM CIGIEMME S.p.A.

Controlli Non Distruttivi - Non Destructive Testing



Product Code
01049015

Ref. no.
U45

**Product Data
Sheet**

GREEN GEL U 45

PRODUCT DESCRIPTION

Green Gel U 45 is a water-based thixotropic green laminating coupling gel that can be used in the temperature range -20°C / 120°C.

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, Green Gel U 45 is tightly controlled to ensure batch uniformity, optimal process verification and control reliability.

SPECIFICATIONS

- An excellent couplant, suitable for use on different types of surfaces, smooth or rough, and also recommended for non-optimal situations, such as under-head inspections.
- Fluorescent under UV light for easy detection and removal.
- Dries very slowly.

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.

It is ideal for:

- Welding.
- Inspections in nuclear plants.
- Vertical surfaces and undercuts.
- Rough surfaces.
- High-temperature inspections.

INSTRUCTIONS FOR USE

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

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

BENEFITS

- Suitable for all surfaces, even vertical ones, since it does not drip.
- Allows extended inspection time.
- It can be used in a wide temperature range: -20°C to 120°C.



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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.

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- Gel-type lamination agents are recommended for rough surfaces. The high viscosity and high acoustic impedance allow for optimal sound coupling in those situations where the transducer is not in uniform contact with the surface to be inspected.
- Non-toxic to the skin, free of dangerous labeling 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.

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	8,5-9,5	8,5-9,5	8,5-9,5	8,5-9,5	8,5-9,5	8,5-9,5
Usage temperature	From -20°C to 120°C	From 5°C to 80°C	From 5°C to 80°C	From 5°C to 80°C	From 5°C to 80°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 -20°C to 120°C

COMPLIANCE WITH STANDARDS

- ASME V Art. 5 (T-533)
- 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.

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