

TECHNICAL DATA SHEET

DUBL-CHEK GW-1

FLUORESCENT MAGNETIC OXIDE PARTICLES

Description: DUBL-CHEK GW-1 is fluorescent magnetic oxide that can be suspended in a highly refined light petroleum oil or water. The particles respond to magnetic leakage fields created by discontinuities in ferromagnetic material. Particles rapidly collect at leakage fields producing fluorescent indications under ultraviolet light.

Properties

Particle Colour:	Green
Florescence:	Yellow / Green
Specific Gravity:	0.4 g/ml
Particle Size:	1 – 12 μm (average 5 μm)
Temperature limit:	0°C to 49°C

Companion DUBL-CHEK Products

MPF – Magnetic Particle Fluid W5C – Water Conditioner

Packaging

450g	Product Code: 1537/1LBS
5.5kg	Product Code: 1537/12LBS

Storage /Shelf Life

Keep away from moisture and sunlight.
Keep the container closed when not in use.
Shelf life: 36 months (3 years) from date of manufacture.
Refer to NDT Shelf Life and Storage Recommendations for further information.

Specifications

Particles meet or exceed industry specifications including;
MIL-STD-1949, AMS 3044, MIL-STD-271, NAVSEA 250-1500-1, NTR-1E, ASTM E 1444

Batch Numbers

Batch numbers can be found on the bottom of aerosol cans or labels of bulk containers. Certificate of Conformance are provided with the product or can be downloaded from www.callington.com

Special Features

Particles are easily agitated, fast acting and produce defined indications
Particles meet specification requirements
Can be used with both stationary and portable magnetic test equipment
Water based suspension is non-flammable

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Instructions

Note: These instructions describe the basic process, but they may need to be amended by the user to comply with applicable specifications and/or inspection criteria provided by the contracting agency.

Oil Suspension

Use at a concentration of 2g/L of **MPF**. For best results, add a small amount of **MPF** to the powder and form a slurry prior to adding to the bath.

Water Suspension

The water must be conditioned before adding the **GW-1** in order to disperse the particles, wet the test surface and inhibit corrosion. **W5-C** is the recommended conditioner and is added at 10g/L. **GW-1** should be added at a concentration of 2g/L.

Settlement Test: The settlement test, using a pear-shaped centrifuge tube, is essential to check the particle concentration and contamination to the suspension. This **SHALL** be performed on the initial batch, an adjustment made to the concentration, or at each shift change. The Settlement Test methods and particle concentrations can be found in relevant standards. The recommended volume is between 0.15 and 0.25 ml and will vary from one specification to another. (Read the settled particles that are fluorescent using an ultraviolet light.) The concentration may be adjusted by adding more **MPF**, water or **GW-1** as required.

1. Clean the test surface and allow it to dry.
2. Ensure continuous agitation of the suspension.
3. Magnetise the area to be inspected.
4. Apply the suspension to the test part at a distance of approximately 150mm from the surface.
5. Allow the excess oil/water to run off the inspection area.
6. Inspect the surface under visible light.
7. Collections of **GW-1** particles will reveal discontinuities at the leakage fields.
8. Clean and repeat the process; changing the orientation of the magnetising direction.

Health & Safety

When **GW-1** is suspended in oil it forms a combustible liquid. Use with adequate ventilation and away from spark, fire or open flames. Avoid prolonged or repeated contact with skin. Do not breathe gas, fumes, vapour or spray. Consult the MSDS for more Safety and Health information.

Get medical attention if irritation develops and persists. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

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