



Technical Bulletin 181
Sir-Chem[®] Dry Powder 93

Sir-Chem[®] Dry Powder 93 is a highly refined and bonded orange/red magnetic powder used for dry method magnetic particle inspection. It is designed to be used in visible light, UV-A light and blue light to reveal discontinuities on fabricated components or weldments such as bridges, drill pipes, large tanks and machinery. Sir-Chem[®] Dry Powder 93 possesses a unique characteristic in that discontinuities in visible light are red and under UV-A light or blue light the discontinuities fluoresce orange. This specially bonded iron based powder is designed to minimize dust and provide clear, sharp discontinuities. The decrease in dust allows for a safer inspection area.

Properties

Particle Color: Red/Fluorescent Orange

Specific Gravity: 2.5 to 3.0 g/ml

Particle Size: Not less than 98% passage through US Standard No. 80 (180 µm) sieve as defined in AMS 3040. The typical range of particle sizes is from 15 to 160 µm, with an average particle size of 75 µm.

Sensitivity: Sir-Chem[®] Dry Powder 93 shows a minimum of 8 lines on an AISI Ketos tool steel ring (as defined in SAE AS5282), set on a 1-inch diameter copper bar, magnetized with 2500 A of direct current.

Particle Certification: Particles meet all relevant specifications, including but not limited to ASTM E-1444, AMS 3040, MIL-STD-271, NAVSEA 250-1500-1, NTR-1E. Certification is included with each shipment.

Temperature Limits: 250°F (120°C)

Shelf Life: Five (5) years, when closed containers are stored in a clean, dry environment, away from excessive heat or cold. A Certificate of Shelf Life is available upon request.

Directions for Use

Apply Sir-Chem[®] Dry Powder 93 to the part or structure with a powder spray bulb or powder blower. As the current is being applied, dust the powder over the part. If excessive powder is visible, gently blow the extra powder off.

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