

Color contrast magnetic ink

1 General Description

Ardrox[®] 8032 is a ready-to-use color contrast magnetic ink ideal for the inspection of ferromagnetic materials, structures and components by the magnetic particle inspection method. A typical application is the inspection of welds, pressure vessels and pipeline in the oil, gas and petrochemical industries as well as power plants.

Ardrox[®] 8032 consist of very finely divided black magnetic particles suspended in high flash point odourless kerosene designed to provide good particle mobility. The black particles have been selected for their high magnetic response, low coercivity (to avoid coagulation) and prolonged operational life.

Ardrox[®] 8032 and Ardrox[®] Base Oil HF use a hydrocarbon corresponding to the AMS 2641, Type 1 Magnetic Particle Inspection Vehicle with a flash point exceeding 93°C / 200°F.

Ardrox[®] 8032 is available as bulk material and as aerosol. It offers optimal performances when used together with the Ardrox[®] 8901W or 8903W contrast paint.

Conformances

- ✓ ASME Boiler & Vessel Code, Section V, Article 7
- ✓ CEN ISO 9934-2
- ✓ SAE AMS 3043 & 2641 Type 1

Ask your Chemetall representative for a complete list of approvals

2 Physical and Chemical Properties

Property	Unit	Typical Value	Test Method
Appearance	-	suspension of black powder	-
Settlement	%	1.5 – 2.4	AMS 3041
Flash point	°C / °F	>93 / >200	ASTM D93
Viscosity	mm ² /s	<3.0 at 40°C / 104°F	

These are typical values only and do not constitute a specification.

3 Application

Ardrox[®] 8032 is used for the detection of grinding or heat treatment cracks as well as forging bursts, laps, porosity, inclusions and other discontinuities in ferromagnetic materials.

Ardrox[®] 8032 is a solid suspension of magnetic particles which settle-out on standing; and therefore aerosol cans and bulk containers must be shaken thoroughly before and during use in order to homogenize the powder concentration.

3.1 Method of use

Care should be taken that the area to be inspected is clean and free from oil, grease, scale or rust or any contaminant which could mask any indications. Surface temperature should be between 0 and 75°C (30-165°F).

Components are magnetized and Ardrox® 8032 is applied to the test area, normally by spraying immediately prior to and during magnetization. Application of Ardrox® 8032 should cease before the magnetization is switched off. Defects will show up as well defined black indications and inspection should take place in good white light of at least 500 Lux (the controlling specification must be referred to for levels of ambient light acceptable for inspection).

3.2 White contrast paint

It is not practical to use Ardrox® 8032 on dark substrates as it would be difficult for the inspector to identify indications against the dark background. For this reason, the white contrast paint Ardrox® 8901W or 8903W is frequently used to provide a contrasting background against the black indications, thereby enabling the inspector see and interpret indications more easily (alternatively, fluorescent fluids such as the Ardrox® 8 series inks may be used if a UV light is available). Ardrox® 8901W or 8903W can then be left on the surface or removed with the appropriate Ardrox® solvent cleaner.

4 Effects on materials

When Ardrox® 8032 is used in the prescribed manner, no significant corrosion will occur on ferrous materials. Equipment/tanks should be constructed of plastic or stainless steel.

5 Storage

Store in a cool place, protect from freezing conditions.

6 Safety guidance

Before operating the process described it is important that this complete document, together with any relevant Safety Data sheets, be read and understood.

7 Waste release

Any release shall respect all the applicable national and local regulation.

8 General information

Chemetall supplies a wide range of chemical products and associated equipment for cleaning, descaling, paint and carbon removal, metal working and protection and non-destructive testing. Sales Executives are available to advice on specific problems and applications.

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