Checkmor

Checkmor 240

Dark Red Colour Contrast Penetrant

General Description

Checkmor® 240 is a new-generation water-washable colour contrast penetrant which is widely used in many industries for the detection of defects which are open to the surface of non-porous parts. A main characteristic advantage of this new penetrant is its dark red colour which allows easy control and monitoring of the washing process.

Checkmor® 240 is a high-sensitivity, low-viscosity liquid with excellent surface wetting properties to ensure optimum coverage of the part. It is used in conjunction with developers and a penetrant remover which can be water or a suitable organic solvent as part of the dye penetrant inspection technique.

Defects such as cracks, laps, cold shuts, porosity, bursts, casting and welding discontinuities can be detected using the appropriate Checkmor® 240 process. Visible dye penetrants are commonly used in aerosol form for convenience using the solvent 'wipe-off' technique. However, for some applications such as the inspection of large surface areas or in-house processes, Checkmor® 240 may be removed by water followed by a drying process before application of a non-aqueous developer. Checkmor® 240 has been formulated to ensure the product has improved resistance to over-washing where removal by water spray is the preferred method.

Composition

Checkmor® 240 is a solution of dyestuffs in a blend of biodegradable surfactants, coupling agents, and high flash point distillates. It carries no environmental hazard labelling and is free from nonyl phenol ethoxylates.

Typical Properties (not a specification)

Appearance	:	Dark red, mobile liquid
Flash Point	:	> 93°C, method: ASTM D 93
Viscosity at 40°C	:	approx. 7 mm^2/s
Density at 20°C	:	approx. 0.89 g/cm^3

Method of use

Surfaces to be tested must be clean and dry before penetrant is applied. Checkmor® 240 may be applied to the area to be inspected by aerosol, brushing, flow-on, immersion, spray or by swab dependent on the circumstances. The minimum recommended contact time for the penetrant is 10 minutes. Contact times may vary according to the controlling specification.

Wipe-off technique

The surface excess Checkmor® 240 is removed by wiping away as much as possible with a clean and dry absorbent lint-free cloth or paper. This is followed by wiping off the remaining surface excess using a similar clean cloth that has been dampened with a suitable solvent such as S76. Solvent removers must not be applied directly for the removal of the penetrant if serious loss of sensitivity is to be avoided. After removal of the surface excess penetrant, components should be allowed to dry.

Developing

The penetrant inspection process is completed by the application of a developer. When colour contrast processes are used, only developers which leave a continuous opaque background layer are suitable. This means essentially that only a wet developer such as the non-aqueous solvent developer LD 7 is suitable.

Non-Aqueous Developing

The LD7 developer is commonly applied by aerosol for convenience. Aerosols must be shaken before use and a thin developer film must be applied over the test surface. Care should be taken to build up the developer layer gradually and not to apply too much developer which may result in the masking of fine indications. The recommended minimum developing time is 10 minutes before final inspection is made, but this may also vary dependent on the controlling specifications. When using non-aqueous developers, indications often appear immediately upon application, but final inspection should be made only after the full developing time has lapsed. Inspection should take place in diffused white light of at least 500 lux at the component surface.

After final inspection, components can be cleaned using S76 cleaner.

Approvals and Specifications

For approvals and specifications, please check our website at www.aerospace.chemetall.com.

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.

issue of: 12/04/2012
supersedes issue of: 14/01/2010

European and Corporate Headquarters:

Chemetall GmbH
Trakehner Str. 3
60487 Frankfurt, Germany

www.aerospace.chemetall.com

® registered trademark