

ZYGLO ZR-10B

General Description

ZR-10B is a biodegradable, pinkish, slightly viscous liquid.

ZR-10B is a 100% active concentrate, which is diluted in water when used as an emulsifier for Zyglo PE penetrants.

ZR-10B is very low in sulfur, chlorine, and sodium content.

Utilization of ZR-10B Hydrophilic Emulsifier affords such advantages as: minimization of fluorescent background on rough surfaces, minimization of bleed-out from hollow parts, reduced consumption of expendable materials, ease of use in closed loop systems and reduced effluent pollutants.

ZR-10B Hydrophilic Emulsifier yields the most reliable and reproducible test results due to its controlled Zyglo PE penetrant removal.

Benefits

- ✓ Usable over a wide range of concentrations
- ✓ Excellent control over removability
- ✓ Biodegradable
- ✓ Cost effective

Composition

ZR-10C consists of a blend of hexylene glycol and surface-active agents.

Like all Magnaflux materials Zyglo ZR-10B is closely controlled to provide unique batch to batch consistency and uniformity to assure optimum process control and inspection reliability.



Typical Properties (not specification)

| Property | ZR-10B |
|-------------------|-------------------------|
| Form | Pinkish red liquid |
| Flash point | > 100 °C |
| Density | 0.98 g/cm ³ |
| Viscosity @ 38 °C | 40.7 mm ² /s |
| Sulfur content | < 1000 ppm |
| Chloride content | < 1000 ppm |
| Fluoride content | < 50 ppm |
| Sodium content | < 100 ppm |



Method of Use

ZR-10B is diluted with water before use. Generally, the dilution rate is specified by the controlling process specification and normally falls within the range 5% to 20%.

Once diluted the product may be used as a spray or as an immersion dip.

Note: In cold storage conditions the concentration may appear cloudy. This is due to the type of surfactants used and is normal for this type of product.

With the immersion dip method, the process steps are:

1. Pre-clean the part
2. Penetrant application & contact time
3. Pre-rinse with spray water for 15 to 30 seconds
4. Immersion dip in ZR-10B solution
5. Rinse
6. Dry
7. Develop

In the immersion dip stage, the penetrated and pre-rinsed part is immersed in the remover bath, which should be kept gently agitated.

In the immersion dip method, the general concentration range is 20% remover to water. The recommended concentration is 20% which optimizes remover activity, bath life, economics and process rate.

The length of time the part is in the bath depends on remover concentration, the penetrant type, specification requirements and the desired results. Generally, this is between 30 and 180 seconds.

The immersion dip is followed by a clean water spray to remove any penetrant/remover residues.

If the spray method of emulsifier application is used, an injector or metering pump is used to control the concentration. The general spray concentration range is 1% to 5% remover. Spray removal should be employed under blacklight illumination to control removal of penetrants from the surface. A clean water rinse is recommended to eliminate emulsifier/penetrant residues.

ZR-10B should be used at temperatures between 10°C and 55°C.

Concentration Control

The concentration of hydrophilic remover baths can be monitored using a refractometer and concentration chart.

To create a ZR-10B concentration chart, select three to five accurately known samples (e.g., 5-10-15-20-25% ZR-10B) that have been carefully measured and mixed.

Take readings of the known samples using the hand-held refractometer. Plot a chart with the refractometer readings on the vertical y-axis and the known % ZR-10B values on the horizontal x-axis.

Specification Compliance

| Specification | ZR-10B |
|-------------------------|--------|
| AMS 2644 | ✓ |
| ASME B & PV Code, Sec V | ✓ |
| ASTM E-165 | ✓ |
| ASTM E-1417 | ✓ |
| EN 571-1 | ✓ |

Availability

ZR-10B is available as follows:

- 20 litre containers, part number F02013
- 205 litre drums, part number F02014

Health and Safety

- Safety Data Sheets for this product are available on request from your Magnaflux distributor or via the Magnaflux website (www.magnaflux.in)
- Read the relevant Safety Data Sheets before use.

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