

# ZR-10C

## Hydrophilic Emulsifier

ZYGLO® ZR-10C is a hydrophilic emulsifier used (diluted in water) as the remover/emulsifier in post-removable penetrant systems. It is designed to reduce fluorescent background from penetrants on rough surfaces, as well as reducing bleed-out of penetrant from hollow parts.



ZR-10C yields reliable and reproducible test results from post-emulsifier penetrants.

### BENEFITS

#### Maximize penetrant inspection process control

- PE penetrant system is less susceptible to human error since ZR-10C only works with rinse water to remove excess surface penetrant
- Tested and confirmed per AMS 2644 to work with Magnaflux PE penetrants for verified penetrant system reliability
- Maintains solution consistency for dependable performance with minimal agitation

#### Wide range of inspections

- Flexible to work with many types of equipment and application methods
- Inspect a wide range of high-value components without fear of corrosion
- Meets all major industry and NDT specification requirements, including AMS 2644 and ISO 3452

### FEATURES

- Reduces bleed-out on hollow parts
- Reliable results
- Usable in a wide range of concentrations
- Excellent control over removability
- Biodegradable

### SPECIFICATION COMPLIANCE

- AMS2644
- ASME BPVC-V
- ASTM E165/E165M-18
- ASTM E1417/E1417M
- EN ISO 3452-2
- MIL-STD-2132D
- Pratt & Whitney PMC 4355-11
- Rolls Royce RRP 58003 (CSS 232)
- SAFRAN Pr 5000/In 5000

### APPLICATIONS

#### Defect location: open to surface

#### Ideal for:

- Castings
- Turbine components
- Critical components

#### Defect examples:

- Cracks
- Seams
- Porosity

### COMPOSITION

A blend of emulsifying agents.

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## PRODUCT PROPERTIES

<b>Form and colour</b>	Pink/red liquid
<b>Flash point</b>	> 100°C
<b>Density</b>	1.04 g/cm <sup>3</sup>
<b>Viscosity at 38°C</b>	40.7 mm <sup>2</sup> /s
<b>Sulphur content</b>	< 500 ppm
<b>Chloride content</b>	< 500 ppm
<b>Fluoride content</b>	< 50 ppm
<b>Sodium content</b>	< 500 ppm

In cold storage conditions, ZR-10C may appear cloudy. This is due to the type of surfactants used and is normal for this type of product.

Like all Magnaflux materials, ZR-10C is closely controlled to ensure batch-to-batch consistency, optimum process control and inspection reliability.

## USER RECOMMENDATIONS

<b>NDT Method</b>	Penetrant Testing
<b>Storage temperature</b>	15°C to 30°C
<b>Usage temperature</b>	15°C to 55°C

## INSTRUCTIONS FOR USE

ZR-10C needs to be diluted with water before use, normally at a 5% - 20% concentration.

### Immersion dip method:

- Pre-clean the test part.
- Apply penetrant and allow contact time.
- Spray with clean water for 15-30 seconds
- Immerse part in the emulsifier bath for required time (normally 30 - 120 seconds).
- Drain the part, then rinse with water
- Allow to dry
- Apply developer
- Inspect part
- Post-clean with a clean water spray to remove any penetrant/emulsifier residues.

When using ZR-10C, you will need to regularly agitate the bath during use, and check the concentration to ensure that the established working strength is maintained. This can be achieved by the use of a suitable refractometer.

The concentration of hydrophilic remover baths can be monitored using a refractometer and a concentration chart. To create a ZR-10C concentration chart:

- Select three to five accurately known samples (e.g. 5-10-15-20-25% ZR-10C) that have been carefully measured and mixed.
- Take readings of the known samples using the handheld refractometer.
- Plot a chart with the refractometer readings on the vertical y-axis and the known % ZR-10C values on the horizontal x-axis.

The water content of the bath can also be determined using the procedure described in ASTM D-95.

## ZR-10C

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### Spray method:

ZR-10C can also be diluted and applied as a spray. For spraying, the usual concentration range is 0.1% to 0.5%; however, you can use a maximum concentration of 5% depending on the application.

### PACKAGING AND PART NUMBERS



065C002



065C003

### HEALTH AND SAFETY

Review all relevant health and safety information before using this product. For complete health and safety information, refer to the Safety Data Sheets, which are available at [www.magnaflux.eu](http://www.magnaflux.eu)