

BYCOTEST[®] RP20, RP20LT



Red Penetrants

General Description

Our red colour-contrast penetrants offer maximum reliability in locating surface-open flaws and defects. BYCOTEST[®] RP20 and RP20LT exhibit outstanding penetrating characteristics, producing vivid red indications of flaws which can easily be seen with the naked eye.

Applications

Our red penetrants are used throughout industry wherever a visible penetrant inspection system is suitable for detecting surface defects. Typical applications include castings, forgings, leak testing, welds and general metal work.

These penetrants can also be used on non-porous ceramics and similar materials. However, we do not recommend them for inspecting plastic materials, as they may stain, soften or even dissolve the base material under test.

Penetrant	Description	Composition	Benefits
RP20	Water-washable and solvent-removable (post-emulsifiable).	A blend of petroleum distillates, non-ionic surfactants and an oil-soluble organic red dye.	<ul style="list-style-type: none"> Outstanding penetrating characteristics Broad range of applications Excellent controlled washability over a wide temperature range and variable dwell times.
RP20LT	Water-washable and solvent-removable. Designed for use at low temperatures (down to -15°C)	A blend of petroleum distillates, non-ionic surfactants and an oil-soluble organic red dye.	<ul style="list-style-type: none"> Low temperature operation Ultra-high sensitivity

Typical Properties (not a specification)

Property	RP20	RP20LT
Colour	Dark red	Dark red
Odour	Mild hydrocarbon	Mild hydrocarbon
Flash point	63°C (bulk product)	15°C
Density	0.83 g/cm ³	0.77 g/cm ³
Viscosity	3.8 mm ² /s	< 3 mm ² /s
Sulphur content	< 200 ppm	< 200 ppm
Chloride content	< 200 ppm	< 200 ppm
Storage temperature	10°C to 30°C	10°C to 30°C
Usage temperature	5°C to 55°C (bulk) -5°C to 50°C (aerosol)	-15°C to 25°C
Coverage	10 - 15m ² per 400ml aerosol, 20 - 30m ² per litre	10 - 15m ² per 400ml aerosol, 20 - 30m ² per litre

Like all Magnaflux materials, RP20 and RP20LT are closely controlled to ensure batch-to-batch consistency, optimum process control and inspection reliability.

BYCOTEST[®] RP20, RP20LT

General Method of Use

Pre-cleaning

Test parts must be clean and dry, and free from oil, grease and other foreign contaminating substances before penetrant is applied. To clean the surface, we recommend the use of our cleaner C5, C10 or C15.

RP20LT: at temperatures below 10°C, any water, moisture or ice on the surface to be tested may negatively affect the result and must be removed prior to testing. The solvent blend used in C10 and C15 allows them to be used at low temperatures, especially close to 0°C or lower, where the use of water is impractical.

Method of Application

Penetrants can be applied by immersion dip, brush, flow-on, or conventional or electrostatic spray. The test area must be completely covered with penetrant.

Penetration time and temperature

RP20

Minimum penetration time is 2 to 5 minutes, with 10 minutes being adequate for most situations. Lower temperatures will thicken the penetrant and require longer penetration times.

RP20LT

At temperatures higher than 10 °C, the minimum penetration time is 5 - 10 minutes, 10 minutes being adequate for most situations. At low temperatures, the dwell time needs to be increased - see table below.

Temperature (°C)	Dwell time (minutes)
+25	10 - 20
0	15 - 40
-10	20 - 60

We recommend performing a reference test at the temperature at which the real test will take place, and comparing this result to results achieved at temperatures in excess of 5 °C.

For more information relating to the use of penetrants at low temperatures (< 10°C), and the relevant testing requirements, refer to the ISO Standard EN ISO 3452-6 (www.iso.org).

Removal

RP20

Remove excess surface penetrant with a solvent wipe or by the water-washable method (see next page).

RP20LT

Wipe with a lint-free cloth dampened with C10 or C15.

Where RP20LT is used on smooth components, or at temperatures higher than 10°C, excess penetrant can be removed by spraying the component with clean water of between 10°C and 40°C.

Developing

A developer is used to maximise sensitivity and provide a white contrasting background against which red indications can be easily seen. Solvent-based developers are quick-drying materials which are applied by spraying - see table below for our recommendations.

Ensure the component under test is dry and apply a thin layer of the developer. Any indications will appear dark red against the white developer background.

Post-cleaning

Developer residue can be removed either by wiping with a cloth or by a water and detergent wash. Penetrant residues can be removed by vapour degreasing or solvent soak.

Recommended Products

Product type	Product name	Solvent base
Pre-cleaner/ remover	C5	Petroleum distillate
	C10, C15	Alcohol
Developer	D30plus	Acetone
	D30A	Alcohol

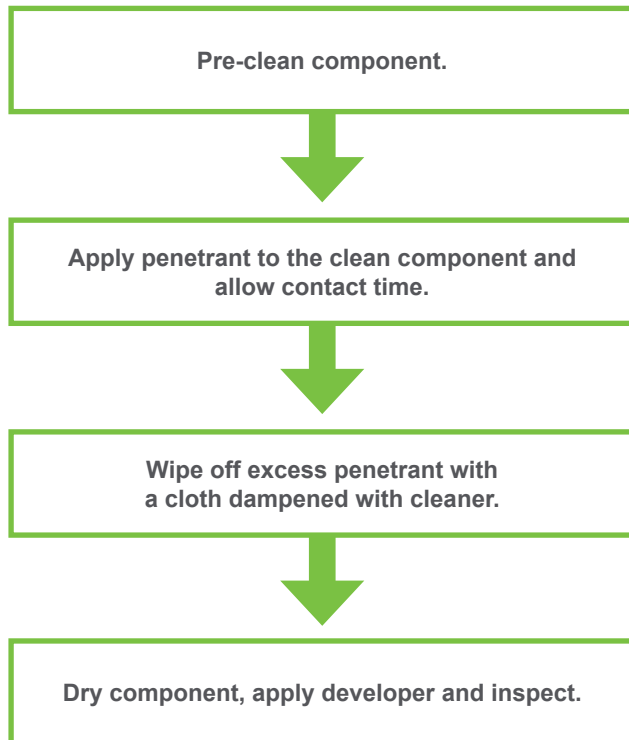
Specification Compliance

Specification	RP20	RP20LT
ASME B & PV Code, Sec V	✓	✓
ASTM E165	✓	✓
EN ISO 3452-2 (Sensitivity Level 2)	✓	

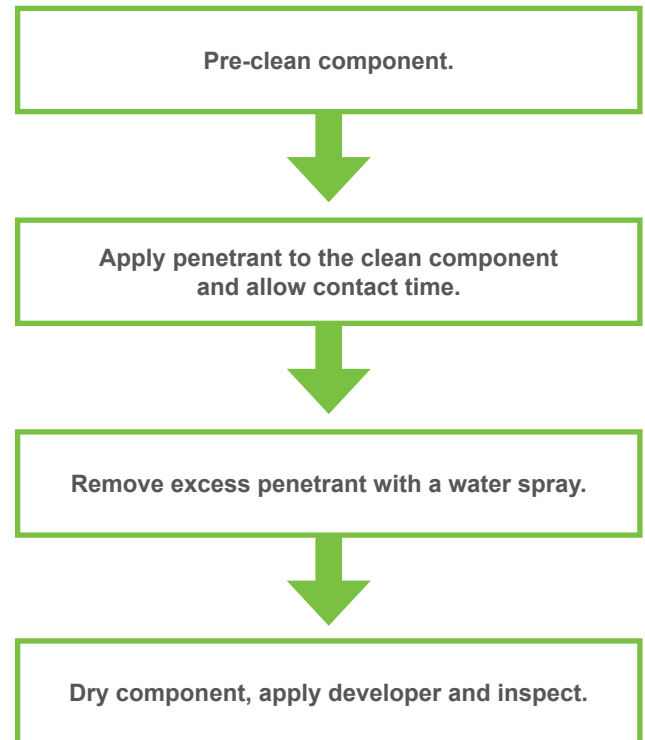
BYCOTEST® RP20, RP20LT

General Method of Use





Solvent wipe method



Water washable method



Availability and Part Numbers

RP20			RP20LT
			
008A240 (x 12)	060C078	060C080	060C029

Health and Safety

Read the relevant Safety Data Sheets for the individual products before use. Safety Data Sheets are available on request from your Magnaflux distributor or via the Magnaflux website: www.eu.magnaflux.com