

# SKL-SP2

## Solvent-Removable Visible Penetrant



SPOTCHECK® SKL-SP2 is a solvent-removable visible penetrant designed for portability, especially for welding operations, and is post-emulsifiable for greater resolution of flaw indications. It produces a visible red colour contrast, and features outstanding penetrating characteristics.

Noted for its compatibility with special alloys, such as stainless steel, aluminum, magnesium and titanium, SKL-SP2 is highly reliable at locating surface-open flaws and discontinuities, and can be used on non-porous ceramics and similar materials.

### BENEFITS

#### Fastest inspection processing

- A convenient and easy-to-use solution for preventative maintenance and control checks.
- Quickly and completely covers the entire test surface due to high surface wetting.
- Remove excess penetrant without water to eliminate the need to dry parts before applying developer.

#### Dependable and convenient to use

- Easy to carry and use in the field with the convenient aerosol cans which are carefully designed for consistent, even coverage and maximum test area coverage
- Use in all conditions without the need for darkness or UV lights.

#### Wide application versatility

- Inspect a wide range of components without fear of corrosion.
- Meets AMS 2644 and is NDT-approved for professional industrial applications

#### Maximum indication detection

- Produces strong, vibrant indications thanks to the bright, vibrant red color, especially when used with SKD-S2 solvent-based developer

#### Maximise operator comfort and safety

- Promotes better inspection quality by providing the operator with a more comfortable work environment.
- Reduces discomfort from strong odours.
- Exceeds all EHS requirements, does not contain NPEs or phthalates

### SPECIFICATION COMPLIANCE

- AMS2644
- ASME BPVC-V
- ASTM D129
- ASTM E165/E165M
- ASTM E1417/E1417M
- EN ISO 3452-1
- EN ISO 3452-2 (Sensitivity Level 2)
- MIL-STD-2132D

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## FEATURES

- Outstanding penetrating characteristics
- Vivid, high-contrast red colour
- Superior flaw resolution
- Excellent reliability
- Wide range of applications
- Solvent removeable
- ISO 3452 sensitivity level #2
- Can be used for Method B, Method C and Method D
- Simple, easy-to-use process
- Good surface wetting
- Optimised capillary action
- Works in visible light
- Very low toxicity
- Low odour
- NDT-spec compliant

## APPLICATIONS

**Defect location: open to surface**

**Ideal for:**

- Castings
- Forgings
- Welds
- Pressure vessels
- Tubular goods
- General metal work
- Leak testing
- Use in power plants
- Construction applications.

**Defect examples:**

- Cracks
- Leaks

## COMPOSITION

A blend of petroleum distillates, plasticiser and an oil-soluble organic red dye.

## PRODUCT PROPERTIES

<b>Form and colour</b>	Red liquid
<b>AMS 2644 class</b>	Type 2, Method B/C/D
<b>Flash point</b>	> 93°C (bulk product)
<b>Density</b>	0.85 g/cm <sup>3</sup>
<b>Viscosity</b>	3.8 mm <sup>2</sup> /s
<b>Sulphur content</b>	< 300 ppm
<b>Chloride content</b>	< 300 ppm
<b>Corrosion</b>	Meets AMS 2644

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

## USER RECOMMENDATIONS

<b>NDT Method</b>	Penetrant Testing, Visible
<b>Storage temperature</b>	10°C to 30°C
<b>Usage temperature</b>	5°C to 55°C (bulk) -5°C to 50°C (aerosol)
<b>Coverage</b>	20 - 30m <sup>2</sup> per litre 10 - 15m <sup>2</sup> per aerosol
<b>Cleaner/remover</b>	SKC-S
<b>Hydrophilic emulsifier</b>	ZR-10C
<b>Solvent-based developer</b>	SKD-S2
<b>Water-based developer</b>	ZP-5B
<b>Accessories</b>	Reference test block (part no. 070C001)

## SKL-SP2

### INSTRUCTIONS FOR USE

**NOTE:** we do not recommend SKL-SP2 for inspecting plastic materials, as it may stain, soften or even dissolve the base material under test.

Ensure test part is clean and dry, and free from oil, grease and other contaminants.

Apply penetrant by immersion dip, brush, flow on, conventional or electrostatic spray. Cover the test area completely.

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

Remove excess surface penetrant with a solvent wipe or by the hydrophilic remover method.

Apply a thin layer of developer\* to the surface and allow a minimum of 10 minutes development time before inspecting the component under white light. Indications will appear dark red against the white developer background.

\* A developer is used to maximise sensitivity and provide a white contrasting background. Two types of developer can be used:

**Solvent-based:** quick-drying materials which are applied by spraying. The component under test must be dry before developer is applied.

**Water-based (aqueous):** can be applied by dipping or spraying. To maximise penetrant sensitivity, parts should only be exposed to aqueous developers for short periods of time. The component must be dried before inspection.

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.

### Solvent wipe method

Apply penetrant SKL-SP2 to the clean component and allow contact time.

Wipe off excess penetrant with a cloth dampened with cleaner/remover SKC-S.

Dry component, apply developer (SKD-S2 or ZP-5B) and inspect.

### Hydrophilic method

Apply penetrant SKL-SP2 to the clean component and allow contact time.

Spray component with water to remove excess penetrant.

Immerse component in hydrophilic remover ZR-10C for the predetermined time.

Spray component with water to remove last traces of penetrant.

Dry component, apply developer (SKD-S2 or ZP-5B) and inspect.

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## PACKAGING AND PART NUMBERS



008A016 (x 10)



055C076 (x 4)

## SK-3 Penetrant Inspection Kit

The SK-3 Kit is a portable visible penetrant inspection kit that includes the following:

- 2 x 400 ml aerosol cans of SKL-SP2 penetrant
- 3 x 400 ml aerosol cans of SKC-S cleaner
- 3 x 400 ml aerosol cans of SKD-S2 developer
- 1 cloth
- 1 set of instructions
- 1 portable carrying case

The SK-3 kit is available as:

- Complete SK-3 kit - part number 008A038
- Carrying case only - part number 053C009

## 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 [eu.magnaflux.com](http://eu.magnaflux.com).