SPOTCHECK® SKL-SP2 SOLVENT REMOVABLE PENETRANT, SKC-S CLEANER and SKD-S2 DEVELOPER

SPOTCHECK® SKL-SP2 SOLVENT REMOVABLE PENETRANT

CLASSIFICATION

- Type 2, Methods B, C and D (Solvent Removable or Post Emulsifiable).

GENERAL DESCRIPTION

Spotcheck® SKL-SP2 is a solvent removable (or post emulsifiable) red color contrast penetrant. SKL-SP2 exhibits outstanding penetrating characteristics which provide for maximum reliability in locating surface-open flaws and discontinuities. SKL-SP2 can be used over the entire spectrum of industrial applications where a visible penetrant inspection system meets the requirements for surface-open flaw detection. SKL-SP2 has also been successfully used on non-porous ceramics and similar materials.

Warning! SKL-SP2 is not recommended for the inspection of plastic materials, as it may stain, soften or even dissolve the base material under test.

APPLICATIONS

Spotcheck® SKL-SP2 is typically used on welds, forgings, pressure vessels, castings, general metal work, leak testing, and power plant construction.

COMPOSITION

Spotcheck® SKL-SP2 is composed of a blend of petroleum distillates, plasticizer, and an oil soluble organic red dye.

TYPICAL PROPERTIES (Not a specification)

Typical Properties	SKL-SP2 Penetrant
Color	Deep Red
Odor	Bland,Oily
Flash Point	200º F Minimum
Corrosion	Meets Requirements of AMS 2644
Density	0.89 g/ml
Viscosity @ 38º C	3.8 CS
Sulfur Content	<300 ppm
Chlorine Content	<300 ppm
VOC	675 g/l

METHOD OF APPLICATION

Spotcheck® SKL-SP2 may be applied by aerosol, dipping, flowing, brushing, conventional or electrostatic spray.

PENETRATION - DWELL TIME

The generally accepted minimum penetration time is 10 minutes, although specific process specifications may require longer penetration time.

TEMPERATURE

SKL-SP2 should be used at temperatures between 40º F – 125º F. Lower temperatures thicken the penetrant and longer penetration times are necessary. High temperatures should be avoided since this can lead to the breakdown of the dye resulting in color fade.

PENETRANT REMOVAL

SKL-SP2 excess surface penetrant can be removed by either SKC-S (Method C), ZE-4B (Method B), or ZR-10B (Method D).

RECOMMENDED DEVELOPERS

A developer is used to maximize the sensitivity and to provide a white contrasting background against which the red indications can be readily seen. Two types of developer can be used:

- SKD-S2 and ZP-9F Solvent Developers are quick drying materials which may be applied by spraying. The part under test must be dry before developer application.
- ZP-5B Water Suspendible Developer is a developer which may be applied by dipping. After application, the part under test must be dried before inspection.

SPECIFICATION COMPLIANCE: AMS-2644, AECL, ASME B & PV Code, Sec V, ASTM E1417, MIL-STD 2132, ASTM E165, MIL-STD 271, ISO 3452 (Sensitivity Level 2).

PACKAGING

1 Gal. Container (case of 4), 5 Gal. Pail, 55 Gal. Drum, Case of Aerosols

COVERAGE

(1) Gal. covers approximately 1,200 square feet.

(1) 16 oz. aerosol can covers approximately 65 square feet.

SPOTCHECK® SKC-S

GENERAL DESCRIPTION
Spotcheck SKC-S is used as a cleaner / remover in the penetrant inspection process.

COMPOSITION
Spotcheck SKC-S contains petroleum naphtha and is non-halogenated.

TYPICAL PROPERTIES (Not a specification)

Typical Properties	SKC-S Cleaner/Remover
Color	Clear, Colorless
Odor	Very Low Odor
Flash Point	57º (PMCC)
Density	6.26 lbs/gal
Vapor Pressure	30mm Hg @ 68º F
Corrosion	Meets AMS-2644 Requirements
Non-Volatile Residue	<50 ppm
VOC	750 g/l

METHOD OF APPLICATION
Apply product to a cloth, wipe test surface and repeat as needed.

Warning! Do not spray SKC-S directly on the part because penetrant indications may be removed.

SPECIFICATION COMPLIANCE: AMS-2644, MIL-STD-271, MIL-STD-2132; AECL, ASTM E 165, ASTM E 1417, ASME B&PV Code, Section V, NAVSEA 250-1500-1, Boeing BAC 5423, Boeing PS-21202, ISO 3452 (Sensitivity Level 2).

PACKAGING
1 Gal. Cans (case of 4), 5 Gal. Pail, 55 Gal. Drum, Aerosols.

COVERAGE
(1) Gal. covers approximately 800 square feet.
(1) 16 oz. aerosol can covers approximately 65 square feet.

SPOTCHECK® SKD-S2 NON-AQUEOUS DEVELOPER

GENERAL DESCRIPTION

Spotcheck SKD-S2 is a ready to use suspension of white developing particles in a fast drying solvent. SKD-S2 is non-halogenated and produces an opaque white coating which provides an excellent contrasting background for Spotcheck or Zyglo penetrant indications.

COMPOSITION

Spotcheck SKD-S2 consists of a blend of inert inorganic particles and surface active agents which are suspended in a solvent blend including isopropyl alcohol and acetone.

TYPICAL PROPERTIES (Not a specification)

Typical Properties	SKD-S2
Flash Point	2°F (PMCC)
Density	7.3 lbs/gal (865g/L)
Corrosion	Non-Corrosive
Coating	White, Opaque Film
Sulfur Content	<1000 ppm
Chlorine Content	<1000 ppm
VOC	617 g/l

METHOD OF APPLICATION

On standing, developer particles will settle out of suspension and must be re-suspended before applying. SKD-S2 should be applied by spraying only, as dipping or brushing will cause excessive solvent action on the penetrant in discontinuities. SKD-S2 may be applied by aerosol, or conventional spray gun. Developers should be applied only after the test surface has been cleaned of excess penetrant, and the cleaning medium has been dried off. Non- aqueous developers should be sprayed in thin even layers which just wet the surface. Too wet a spray will cause excessive bleeding and running of indications; whereas too dry a spray will result in slow indication development as well as possible loss in overall sensitivity due to limited solvent action.

The coating should be a relatively thin even white coating. SKD-S2's unique formula permits a thin coating to hide surface blemishes, which could interfere with indication interpretation. A thick coating is not required for this effect and is undesirable as masking of indications could result. A general reddish color or pink developer film indicates incomplete removal of surface penetrant.

SPECIFICATION COMPLIANCE: AMS 2644, MIL-STD-271, MIL-STD-2132, AECL, ASME B & PV Code, Section V, Boeing PS-21202, AMS 2647, ASTM E1417, ASTM E165, NAVSEA 250-1500-1, Boeing BAC 5423, ISO 3452 (Sensitivity Level 2).

PACKAGING

1 Gal. Container (case of 4), 5 Gal. Pail, 55 Gal. Drum, Aerosols.

COVERAGE

(1) Gal. covers approximately 800 square feet.

(1) 16 oz. aerosol can covers approximately 65 square feet.