

SPOTCHECK[®] SKL-4C WATER BASED PENETRANT & SKD-S2 DEVELOPER

SPOTCHECK[®] SKL-4C WATER BASED PENETRANT

GENERAL DESCRIPTION

Spotcheck[®] SKL-4C is a water based, water washable red penetrant. It appears dark purplish red under visible light and fluorescent orange under black light to give it a dual range inspection capability. SKL-4C can be diluted infinitely with water but is generally recommended at 1:1 dilution.

Warning! Penetrants attack and even dissolve many kinds of plastic pipe. Polyvinyl chloride (PVC) pipe is especially vulnerable, and can crumble after only a few days of exposure. Even diluted penetrant rinsings attack it rapidly. ABS plastic pipe is nearly as sensitive. When installing plumbing to handle penetrant rinsings, use metal pipe.

APPLICATIONS

Spotcheck[®] SKL-4C is designed for use where standard penetrant products may attack the test specimen chemically. It may be used on ceramics and as a leak test penetrant.

COMPOSITION

Spotcheck[®] SKL-4C is composed of surface active agents, dye and water.

TYPICAL PROPERTIES (Not a specification)

| Typical Properties | SKL-4C |
|--------------------|-------------------|
| Color | Dark Purplish Red |
| Flash Point | None |
| Density | 8.7 lbs/gal |
| Viscosity @ 38°C | 11 cs |
| PH (1:1 in Water) | 7.0 |
| Sulfur | <1% |
| Chloride | <0.2% |
| VOC | 385 g/l |

METHOD OF APPLICATION

Spotcheck® SKL-4C may be applied by dipping, brushing, flow on, or conventional spray. *Test part must be cleaned and dried before penetrant application.*

PENETRATION - DWELL TIME

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

TEMPERATURE

SKL-4C should be used at temperatures between 50° F – 125° 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-4C is easily removed by water rinsing. Because SKL-4C is water soluble, care must be taken to avoid over washing, thereby depleting the discontinuities of penetrant. On smooth surfaces, a towel moistened with water may be used to wipe away surface penetrant for maximum sensitivity.

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: SKD-S2 is a *non-aqueous developer* which is generally applied to yield a white background to contrast with the red penetrant. If the test part consists of material which prohibits the use of non-aqueous developer, an aqueous developer may be used.

ZP-5B: ZP-5B is an *aqueous water suspendible developer* which is applied before the parts are dried. Care should be taken to dry parts as quickly as possible to prevent the aqueous developer from washing the penetrant from discontinuities.

PACKAGING

5 Gal. Pail, 55 Gal. Drum.

COVERAGE

(1) Gal. covers approximately 800 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 Zyglo⁷ 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 | <1000 ppm |
| Chlorine | <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.

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.