



# User Instructions



Faraday Road, South Dorcan Industrial Estate, Swindon, SN3 5HE, UK  
T: + 44 (0)1793 524566 E: [sales.eu@magnaflux.com](mailto:sales.eu@magnaflux.com) [www.magnaflux.eu](http://www.magnaflux.eu)

Stockertstraße 4-8, 73457 Essingen, Deutschland  
T: +49 (0) 7365 81-0 E: [sales.de@magnaflux.com](mailto:sales.de@magnaflux.com) [www.magnaflux.eu/de](http://www.magnaflux.eu/de)



SPOTCHECK® SK-3 Dye Penetrant Kit  
Part number 008A038

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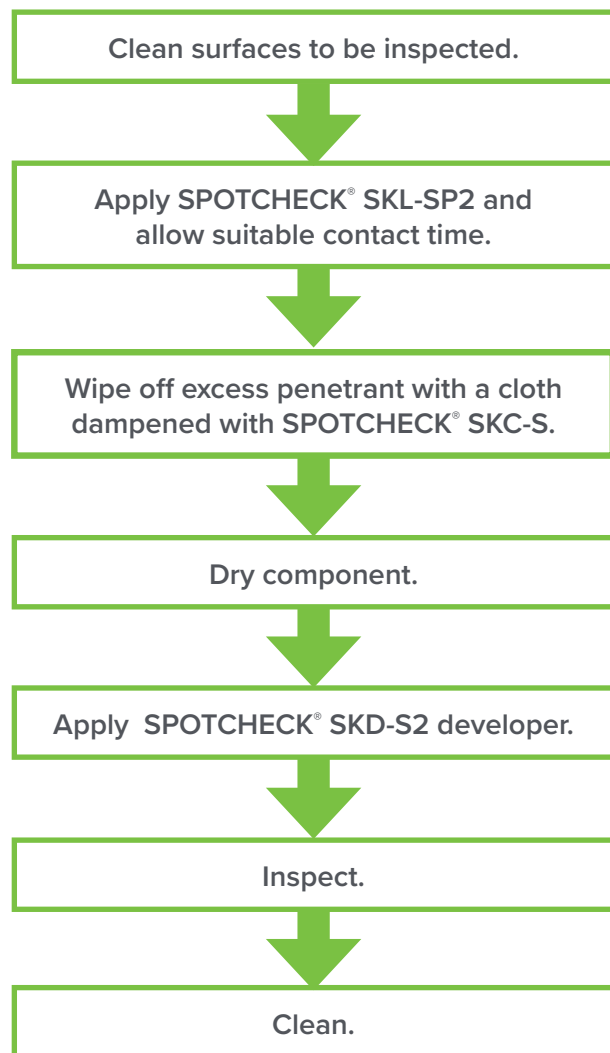
## SPOTCHECK PENETRANT CONTACT TIMES

Penetrant contact time for specific problems must be established by experiment, as circumstances vary. The tables below show suggested minimum times (in minutes).

Form	Type of defect	Materials		
		Aluminium	Magnesium	Steel
Coatings	Shrinkage	10	10	20
	Porosity	10	10	20
	Cold shuts	10	10	20
Forgings	Cracks	20	20	25
	Laps	20	20	25
Welds	Cracks	20	20	30
	Lack of fusion	20	20	30
	Porosity	20	20	30
All forms	Fatigue cracks	20	20	30
	Leaks	20	20	20

Form	Type of defect	Materials		
		Brass/bronze	Cutting tools	Glass
Coatings	Shrinkage	10	-	-
	Porosity	10	-	-
	Cold shuts	15	-	-
Forgings	Cracks	20	20	-
	Laps	20	-	-
Welds	Cracks	20	-	-
	Lack of fusion	20	-	-
	Porosity	20	-	-
Brazen parts	Cracks	20	-	-
	Porosity	20	-	-
All forms	Fatigue cracks	20	30	20
	Leaks	20	20	20

## METHOD OF USE



## HOW TO USE YOUR SPOTCHECK KIT

The dye penetrant method of inspection using SPOTCHECK® products is a non-destructive test for defects open to the surface. It may be used on such materials as aluminium, magnesium, brass, copper, cast iron, steel, stainless steel, carbides, stellite, certain plastics and ceramics.

The essentials of the method are:

- Application of the penetrant to the area to be tested;
- Removal of the excess penetrant from the surface;
- Development of the indication;
- Inspection.

A deep red indication will mark the defect.

Surfaces should be free of foreign materials and paint; grease, oils, etc, prevent penetration and should be removed by pre-cleaning with a cleaner/remover (e.g. SPOTCHECK® SKC-S) or by degreasing. Scale, sand, dirt, etc, trap penetrant and hinder removal, therefore wire brushing or similar pre-cleaning is necessary. For most reliable results, paint should be removed from areas to be tested.

This SPOTCHECK kit is not recommended for the inspection of plastic materials, as it may stain, soften or even dissolve the material under test.

## 1. CLEANING

For pre-cleaning, coat the part/section to be inspected with SKC-S cleaner/remover. Allow the cleaner to remain on the part long enough to dissolve any dirt or film. Wipe dry with a clean cloth. Repeat if necessary. After final clean wiping, allow time to dry before using SPOTCHECK penetrant.

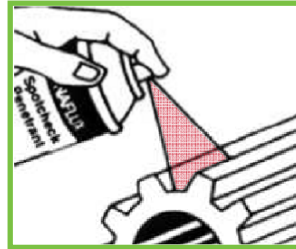
Clean the same day that inspection is carried out.



## 2. APPLY PENETRANT

Spray or brush the part/section to be inspected so that it is covered with SPOTCHECK penetrant. If the penetrant pulls back in droplets, re-clean or wipe with SKC-S. Allow penetrant to remain on the part for 10 - 30 minutes (see table overleaf).

Longer penetration times may be needed for locating extremely fine, tight discontinuities. Prolonged penetration time will not affect the results, though the penetrant may dry on the part. If this happens, re-wet with penetrant, leave for a minute, then remove.



## 3. REMOVE PENETRANT

When sufficient penetration time has been allowed, wipe the surface clean with a clean towel or cloth pre-moistened with SKC-S. **DO NOT** spray the surface with SKC-S as this will impair the sensitivity. Wipe until all residual surface penetrant has been removed.

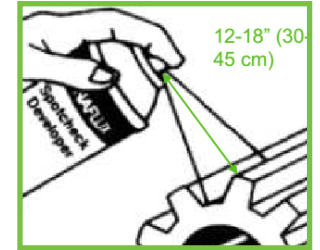


Ensure that the surface is dry before proceeding to the next stage.

## 4. DEVELOP

**IMPORTANT:** Shake the aerosol can vigorously. Hold the spray can 12-18 inches (30-45 cm) above the part to be inspected and spray with just enough SKD-S2 developer to wet the part thinly and evenly. The correct thickness of developer will dry to an even white layer. Too much developer will mask indications; too little will not develop them enough. We recommend spraying 6-8 inch (15-20 cm) sections at a time.

Allow the developer to dry before inspecting.



## 5. INSPECT

Defects will be marked by a deep red indication. Large cracks will show up immediately; fine cracks may take a few minutes to develop. A line or dotted line marks a crack, lap, or forging burst or cold shut; if wide and deep, the indication will grow and spread. Porosity, shrinkage, lack of bond, and leaks will appear as dots or local areas of colour. These too will grow and spread if the defect is large or extensive.

