

## Description

**WS 1819**, is a kit consisting of the penetrant **WS 1820 S Crack 1**, the developer **WS 1821 S Crack 2** and the remover **WS 3050 S Crack 3**.

It locates discontinuities, pores, cracks, by means of the Type II liquid penetrant test, complying with ASTM E-165 specifications.

## Features

- Can be removed with water and solvents.
- It works with natural light.
- Excellent penetration characteristics.
- Optimised high capillary action.
- Very good surface wetting.
- It cleans quickly, saving time and water.
- Very low fluid consumption due to low viscosity.
- Meets ASME Section V specifications for sulphur, chlorinated and halogenated solvents.
- Sensitivity level ISO 3452 Level 2.

## Applications

**Type II** examination with visible penetrants according to:

- Method A - Water washable according to test E1418.
- Method B - Solvent washable according to test E1220.

## Instructions for use

### 1. CLEANING

#### 1.1 Surface Cleaning with **WS 3050 S Crack 3**.

For the development of any liquid penetrant examination procedure it is very important that the adjacent surface and possible discontinuities are free of any liquid or solid contaminants that may interfere with the process. All parts or areas of the part to be examined must be clean and dry before applying the penetrant. If only a section of the part, such as a weld, including the ZAT zone is to be examined, any possible contaminants must be removed, the surface must be free of rust, scale, dirt, oil, weld flux, spatter, grease, paint or any contaminant that could interfere with the process. These types of contaminants can prevent the penetrant from entering the discontinuities.

## 1.2 Drying after cleaning.

It is essential that the surfaces of the parts are completely dry, drying can be done by heating the parts in drying ovens, with infrared lamps, forced air or exposed to room temperature.

## 2. APPLICATION OF PENETRANT WS 1820 S Crack 1

Once the part is dry and at a temperature between 4°C and 52°C, the penetrant shall be applied to the surface to be examined so that the entire part or area under examination is completely covered with penetrant.

### 2.1 Mode of Penetrant Application.

There are several ways to apply the penetrant effectively: dipping, spraying, brushing. You can choose the one that best suits your needs depending on the size of the part and its geometry.

### 2.2 Penetration Time.

The recommended time is between 10 and 20 minutes with an ambient temperature between 10 and 52°C.

### 2.3 Elimination of Excess Red Penetrant.

Although there are different procedures Whale Spray recommends removal with solvent or water, for other processes please contact our Technical Department.

#### — 2.3.1 With Water

If you use the wiping procedure you should wipe the surface with a clean, absorbent, water-soaked cloth until the excess penetrant is removed.

#### — 2.3.2 With Solvent

First use a dry, clean, lint-free cloth, repeat the operation until most of the penetrant is removed, if traces remain impregnate the cloth with solvent and remove the remaining traces. Avoid excessive use of solvent. Spraying the surface with solvent is prohibited prior to developing, excess solvent can completely remove the penetrant.

## 3. APPLICATION OF THE WHITE REVEALER WS 1821 S Crack 2

Once the excess penetrant has been removed and the surface is dry, apply the developer, making sure that it covers the part or area to be examined completely with a thin film of the developer. WS 1821 S will evaporate quickly at room temperature so that forced drying is not necessary.

### 3.1 Development Time.

There is no generic time period, as it depends on the ambient temperature, the type of discontinuity and other factors that may vary according to different scenarios.

However, the time for the examination of the part should never be less than 10 minutes, nor more than 4 hours, as soon as the developer is dry, the process of exudation of the penetrant begins.

Since **WS 1821 S** dries instantly, in many cases we will see immediately if there are defects in the part, for safety we recommend a minimum of 10 minutes to examine the parts.

#### 4. POST CLEANING

Post-cleaning is necessary in cases where residual penetrant or developer could interfere with subsequent processes or service requirements. For this process you can use water or solvent (WS 3050 S), applied by spray, spray gun, machine wash, steam degreaser, immersion. We recommend that if cleaning is necessary, it should be carried out as soon as possible after the examination.

#### 5. PERSONNEL QUALIFICATION, PROCEDURE, AGENCY

It may be required in a user/supplier agreement that all examination personnel are qualified/certified in accordance with a written procedure according to the applicable edition of the practice, depending on the country/continent there are different certification systems SNT-TC-1st, ANSI/ASNT CP-189, NAS 410, MIL-STD-410, etc. Also, if the examination requires a Nondestructive Testing Agency Qualification, the agency must comply with E543.

#### 6. EXPIRY

The shelf life of this product is 5 years\* from the date of manufacture, this information can be found on the packaging.

\*observing the recommendations on Proper Storage Conditions.

### Certifications/Specifications

Meets and exceeds the standards of the following specifications:

- ASTM E-165
- ASTM E 1220
- EN 571
- ISO 3452-1
- ISO 3452-2
- ASTM E1417
- AMS 2644
- ASME SEC V Art 6, T641
- REACH