

Super Dye Check

가장 손쉽게 검사에 적용할 수 있고 가장 널리 사용되는 방법으로 거의 모든 재료의 표면결함을 신속하고 정확하게 검출할 수 있으며 선명하고 명료한 지시를 얻을 수 있다.

This is the most easily applicable and the most widely used Method.
With this method, surface defects in articles made of almost all materials can be detected rapid and exactly with clear indications.



염색침투탐상제

- 특 징
- 1. 모든 시험물에 대해 부식성이 없음
 - 2. 육안으로 발견되지 않는 시험물의 표면의 미세한 결함 검출이 빠르고 정확함.
 - 3. 시험물의 표면의 검사결과를 닦아내지 않는 한 보존됨.
 - 4. Aerosol 제품으로 취급이 간단하여 미숙련자도 용이하게 사용 및 결함 판독이 가능하다.
 - 5. 휴대가 간편하여 시험물에 신속하게 적용할 수 있다.
 - 6. 소규모 단위의 현장에서 경제적이다.

적 용

표면균열, 기공, 누출부위 등
Shrinkage crack, Shrinkage proosity, Coldshut, 피로균열, 기계가공 균열, 열처리 균열, Seam, 단조결침, 터짐, 접합부 접합상태, 용접부 등

Super Dye Check

- Feature
- 1. Not decays any tested materials
 - 2. Rapid and exact detection of fine surface defects not observable with eye
 - 3. Reserving indications on the surface as long as not cleaning
 - 4. Easily usable even by a beginner owing to the aerosol products
 - 5. Aerosol spray cans make penetrant materials very portable.
 - 6. Economical to small quantity and at the field site.

Appliactions

Fatigue cracks, Quench cracks, Grinding cracks, Overload and impact fractures, Porosity, Laps, Seams, Pin holes in welds, Lack of fusion or braising along the edge of the bond line

Super Dye Check KIT

- 한 개의 KIT에는 6개의 캔으로 구성
- Pnerant 1can/450mℓ
 - Developer 2can/450mℓ
 - Remover 3can/450mℓ

Pnetrant / 침투액

- Solvent removable penetrant
- KD-PT Aerosol 450mℓ/Can
 - KD-PT Bulk 4ℓ
 - KD-PT Pail 19ℓ
 - Aerosol type package : 6 cans/box

Developer / 현상액

- KD-DT Aerosol 450mℓ/Can
- KD-DT Bulk 4ℓ
- KD-DT Pail 19ℓ
- Aerosol type package : 6 cans/box

Remover / 세척액

- KD-RT Aerosol 450mℓ/Can
- KD-RT Bulk 4ℓ
- KD-RT Pail 19ℓ
- Aerosol type package : 6 cans/box

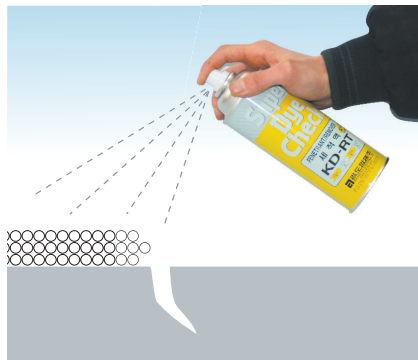
Super Dye Check

침투탐상제 사용법 / The use of Liquid Penetrant Testing

1. 전처리

검사부위를 전처리한다.
세척제를 뿌린다.
천으로 닦아낸다

Preclean inspection area.
Spray on Cleaner/Remover.
Wipe off with cloth.



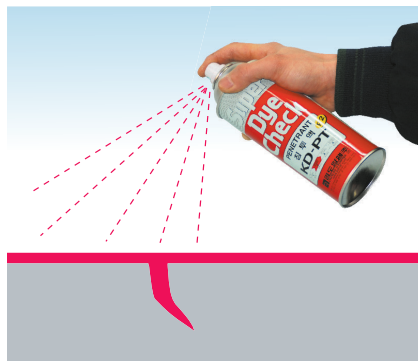
액체침투탐상 검사에서 가장 중요한 단계이며, 특히 검사부의 오일, 그리스, 물 등의 이물질들을 제거하여 침투제가 잘 침투할 수 있도록 해야 한다.

One of the most critical steps of a liquid penetrant inspection is the surface preparation. The surface must be free of oil, grease, water, or other contaminants that may prevent penetrant from entering flaws. The same may also require etching if mechanical operations such as machining, sanding, or grit blasting have been performed. These and other mechanical operations can smear metal over the flaw opening and prevent the penetrant from entering.

2. 침투처리

침투제를 도포한다.
침투제가 침투할 시간을 준다.

Apply Penetrant.
Allow short penetration period.



표면을 깨끗이 하고 잘 건조되면 침투액을 검사 부위에 도포를 한다. 이때 침투제가 결함부위에 침투 할 수 있는 시간을 주어야 한다.

Once the surface has been thoroughly cleaned and dried, the penetrant material is applied by spraying, brushing, or immersing the part in a penetrant bath.

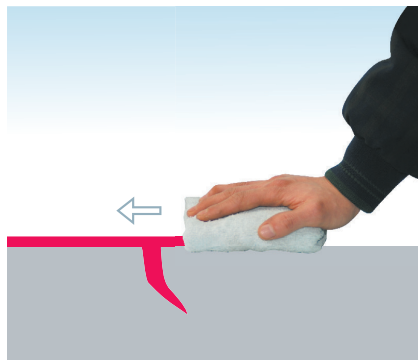
The penetrant is left on the surface for a sufficient time to allow as much penetrant as possible to be drawn from or to seep into a defect. Penetrant dwell time is the total time that the penetrant is in contact with the part surface. Dwell times are usually recommended by the penetrant producers or required by the specification being followed.

The times vary depending on the part being inspected, and the type of defect being inspected for. Minimum dwell times typically range from 5 to 60 minutes. Generally, there is no harm in using a longer penetrant dwell time as long as the penetrant is not allowed to dry. The ideal dwell time is often determined by experimentation and may be very specific to a particular application.

3. 제거처리 (세척)

걸레에 세척제를 뿌려 표면을 닦아낸다.

Spray on Cleaner/Remover
on wiping towel and wipe
surface clean.



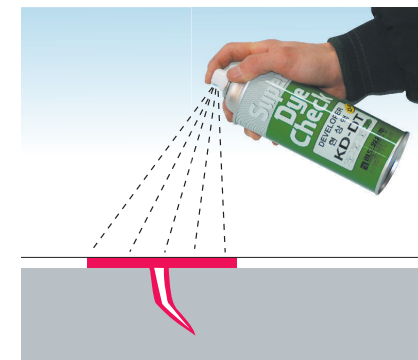
다음단계는 검사 단계 중 가장 조심스럽게 처리해야 한다. 과잉 도포된 침투제를 처리하며 또한 결함 부위에 침투되어 있는 침투액이 제거되지 않도록 하여야 한다.

This is the most delicate part of the inspection procedure because the excess penetrant must be removed from the surface of the sample while removing as little penetrant as possible from defects. Depending on the penetrant system used, this step may involve cleaning with a solvent, direct rinsing with water, or first treating the part with an emulsifier and then rinsing with water.

4. 현상처리

현상제를 얇고 균일하게 뿌린다.

Spray on the thin, uniform
film of developer.



현상액을 얇고 균일하게 뿌린다. 이때 침투제가 표면으로 나와 지시가 될 때까지 기다린다. 보통 현상에 필요한 시간을 10분 정도이며 미세한 크랙의 경우 더 많은 시간이 필요하다.

A thin layer of developer is then applied to the sample to draw penetrant trapped in flaws back to the surface where it will be visible. Developers come in a variety of forms that may be applied by dusting (dry powdered), dipping, or spraying (wet developers).

The developer is allowed to stand on the part surface for a period of time sufficient to permit the extraction of the trapped penetrant out of any surface flaws. This development time is usually a minimum of 10 minutes. Significantly longer times may be necessary for tight cracks.

5. 관찰 (판독)

판독한다. 결함이 흰색의 현상제를 배경으로 붉은선으로 나타난다.

Inspect. Defects will show as
bright red lines in white
developer background.



결함을 관찰한다.

Inspection is then performed under appropriate lighting to detect indications from any flaws which may be present.

6. 후처리

검사부위의 침투제 및 현상제를 세척제로 직접뿌려 세척한다.

Clean the penetrant and
developer using the
cleaner/remover
on inspection area.



마지막 단계로 표면의 현상제와 침투제를 닦아 낸다.

The final step in the process is to thoroughly clean the part surface to remove the developer from the parts that were found to be acceptable.

