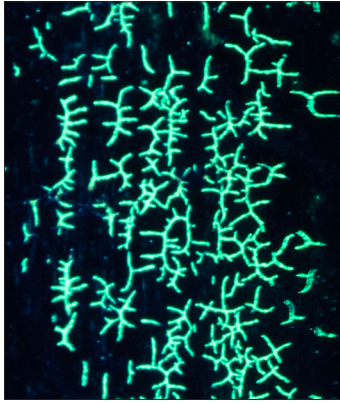




KD-CHECK Penetrants
Agents for Penetrant Testing

KARL DEUTSCH

KD-CHECK Penetrants Agents for Penetrant Testing



Crack indication with fluorescent penetrants

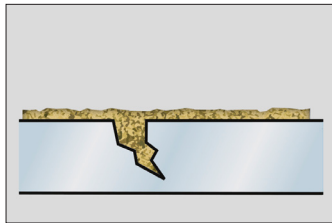
Penetrant Testing

Penetrant testing is a method of non-destructive material testing which is used to make surface cracks visible. A prerequisite for the applicability of the method is that the defect to be detected is open to the workpiece surface; internal material defects are not detected.

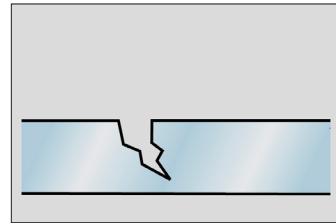
Mainly metallic materials are tested, but plastics or ceramic materials can also be examined with penetrant testing. Here, it is recommended to carry out a compatibility test before starting the test.

Cracks or pores detectable by penetrant testing typically have a width of 0.5 µm to 10 µm and a depth of 20 µm to 200 µm.

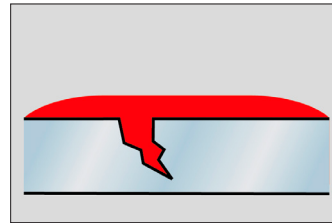
The individual steps of penetrant testing according to DIN EN ISO 3452-1



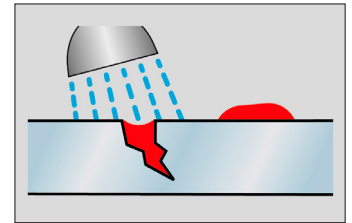
1. Dirty crack



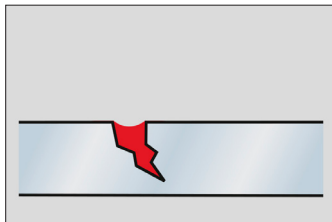
2. Ideally pre-cleaned



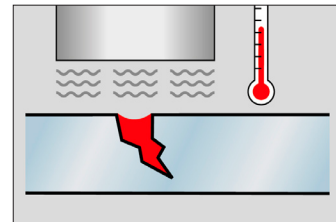
3. Application of testing agent



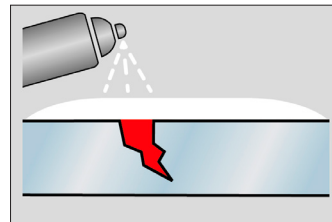
4. Intermediate cleaning



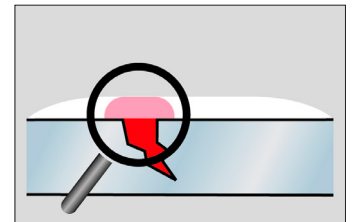
5. Ideal intermediate cleaning



6. Drying



7. Application of developer



8. Inspection



Fluorescent penetrant according to DIN EN ISO 3452 and AMS 2644

KD-CHECK testing agents are ...

- suitable for use in all applications where high demands are made on penetrant testing and they are used in the automotive, aerospace and marine sectors, mechanical engineering, tank and reactor construction, maintenance, welding technology, as well as many other industrial sectors.
- type-tested according to DIN EN ISO 3452-2 and meet the requirements of other standards (ASTM E165, ASTM E1417 and many more).

For the aviation sector, many testing agents are offered which are approved to AMS 2644 and listed on QPL-AMS 2644.

- marked by “Low sulphur and halogen content according to DIN EN ISO 3452” with regard to the corrosive components (sulphur, fluorine, chlorine) and fulfil the requirements of the ASME Code, Section V, Article 6.

KD-CHECK Penetrants

Agents for Penetrant Testing

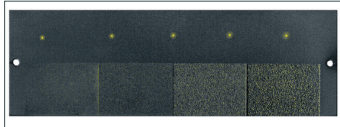
	Product	Sensitivity	Basis	Biodegradable	Approvals
Dye Penetrants	KD-CHECK RDP-1	2	Oil		DIN EN ISO 3452-2 DIN EN ISO 3452-6 AREVA NP TLV 9017 ASME Code, Section V, Article 6
	KD-CHECK RDP-2	2	Water	✓	DIN EN ISO 3452-2 ASME Code, Section V, Article 6
Fluorescent Dye Penetrants	KD-CHECK FWP-1	2	Oil		DIN EN ISO 3452-2 ASME Code, Section V, Article 6
	KD-CHECK FWP-2	3 (AMS 2644) 4 (DIN EN ISO 3452-2)	Surfactants	✓	DIN EN ISO 3452-2 AMS 2644 ASME Code, Section V, Article 6
	KD-CHECK FWP-3	0.5	Surfactants	✓	DIN EN ISO 3452-2 ASME Code, Section V, Article 6
	KD-CHECK FWP-4	1	Surfactants	✓	DIN EN ISO 3452-2 ASME Code, Section V, Article 6
	KD-CHECK FWP-6	2	Surfactants	✓	DIN EN ISO 3452-2 ASME Code, Section V, Article 6
	KD-CHECK FWP-22	2 (DIN EN ISO 3452 + AMS 2644)	Surfactants	✓	AMS 2644 ASME Code, Section V, Article 6
	KD-CHECK FNP-1	2 Post-emulsifiable	Oil		DIN EN ISO 3452-2 ASME Code, Section V, Article 6
Emulsifier	KD-CHECK HE-1	Corresponds to the reference	Surfactants		DIN EN ISO 3452-2 ASME Code, Section V, Article 6
Developer	KD-CHECK SD-1 Wet Developer	Corresponds to the reference	Alcohol/ Acetone		DIN EN ISO 3452-2 DIN EN ISO 3452-6 AREVA NP TLV 9017 AMS 2644 ASME Code, Section V, Article 6
	KD-CHECK DD-1 Dry Developer	Corresponds to the reference			DIN EN ISO 3452-2 AMS 2644 ASME Code, Section V, Article 6
	KD-CHECK WDD Water-based Wet Developer	Corresponds to the reference	Water		DIN EN ISO 3452-2 ASME Code, Section V, Article 6
Cleaner	KD-CHECK PR-1	Corresponds to the reference	Oil		DIN EN ISO 3452-2 DIN EN ISO 3452-6 AREVA NP TLV 9017 AMS 2644 ASME Code, Section V, Article 6
	KD-CHECK PR-2	Corresponds to the reference	Alcohol/ Acetone		DIN EN ISO 3452-2 DIN EN ISO 3452-6 AREVA NP TLV 9017 AMS 2644 ASME Code, Section V, Article 6

KD-CHECK Penetrants

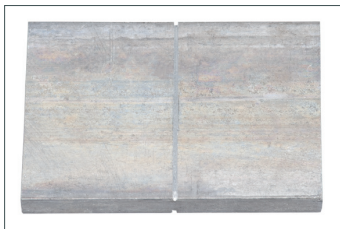
Accessories for Penetrant Testing, Testing Stations and Systems



Reference Test Block Type 1



Reference Test Block Type 2



Aluminium Test Block ASME

Reference Test Panels

We provide an extensive range of reference test blocks for all common standards (DIN EN ISO 3452, ASME, ASTM etc.).

UV-Lamps

We offer suitable UV-lamps for the various areas of application: UV-LED lamps as well as UV-lamps with conventional technology, large-area lamps for stationary inspection tasks and hand lamps for mobile use.

Miscellaneous Accessories

Manual pump sprayers for powder, spray attachments for aerosol cans, electrostatic unit for penetrants and developers

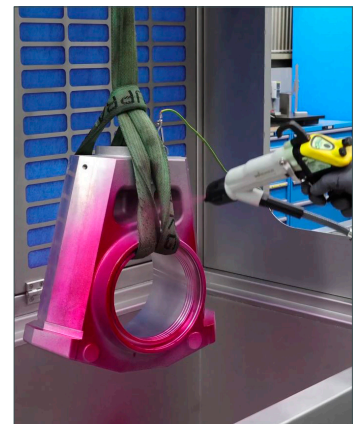
Testing Stations and Systems

We manufacture customised standard and special test stations as well as systems for individual or series testing.

Our fully equipped technical centre is available to customers for testing. All testing methods – from individual part tests to automated testing – can be tested here.



UV-LED Hand Lamp



Electrostatic application of testing agent at a penetrant station



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