



Penetrant inspection is a very express full procedure to detect surface cracks. If correctly applied cracks with a width of 1 µm can be detected. For this, Tiede provides reliable test media and auxiliaries which are suitable for the equipment programme assuring express full test results.

Fluorescent penetrants

Fluorescent penetrants	Ref.No.	Packing unit	Water washable	Post emulsifiable	Sensitivity	Fluorescent colour
FluoPEN®	114654	10 l-can				
Tiede-PEN AP-11	114658	200 l-barrel	*	-	medium	yellow
FluoPEN®	114751	500 ml-aerosol				
	114754	10 l-can				
Tiede-PEN AP-21	114758	200 l-barrel	*	-	high	yellow
FluoPEN®	114834	10 l-can				
Tiede-PEN AP-31	114838	200 l-barrel	-	*	high	yellow

Emulsifier	Ref.No.	Packing unit
Tiede-PEN EM-3	114964	10 l-can
	114968	200 l-barrel

Dry powder developer	Ref.No.	Packing unit
Tiede-PEN ET-2	114912	1 kg-tin
	114913	5 kg-tin

Pre- and intermediate cleaner	Ref.No.	Packing unit
Tiede-PEN RL-40	114301	500 ml-aerosol
	114304	10 l-can
	114308	200 l-barrel
Tiede-PEN RL-50	114321	500 ml-aerosol
	114324	10 l-can
	114328	200 l-barrel

Accessories

UV illumination equipment

Powerful UV illumination equipment — the best way towards safety in testing.

A good and easy detectability of fluorescent flaw indications, either in a darkening cabin or under daylight conditions, can only be carried out in an optimal way if there is sufficient UV intensity.

Our product range includes UV hand lamps about stationary UV lights to the latest technology with the UV LED lamp.



Preventive measures

From a certain risk class, the technical committee of the DGZfP (German association of non destructive testing) asks for utilization of eye and face protection.

We will be pleased to mail our detailed papers with accessories for penetrant inspection.



Test agents & Accessories

for the penetrant inspection acc. EN ISO 571-1

Dye Penetrant

Dye Penetrant	Ref.No.	Packing unit	Water washable	Solvent washable	without azo-dye	Daylight colour
ColorPEN PWL-1	114001	500 ml- aerosol	*	*	-	red
	114004	10 l-can				
	114008	200 l-barrel				
ColorPEN PWL-2	114101	500 ml- aerosol	*	*	*	red
	114104	10 l-can				
	114108	200 l-barrel				

Wet developer on solvent basis	Ref.No.	Packing unit
Tiede-PEN DL-20	114401	500 ml- aerosol
	114404	10 l-can
	114408	200 l-barrel

Pre- and intermediate cleaner	Ref.No.	Packing unit
Tiede-PEN RL-40	114301	500 ml- aerosol
	114304	10 l-can
	114308	200 l-barrel
Tiede-PEN RL-50	114321	500 ml- aerosol
	114324	10 l-can
	114328	200 l-barrel

Our test material correspond to ASME boiler and pressure Vessel Code, 2004 Edition, section V.

Test Pieces

Test Piece 1 (according to EN ISO 3452-3)

The test piece 1 is used to determinate the sensitivity of fluorescent and dye penetrants.

To determinate the sensitivity of fluorescent penetrants the plates with a crack depth between 10 and 30 µm are used. The plates with a crack depth between 30 and 50 µm are used to determinate the sensitivity of the dye penetrants.

Test piece 1 Set with 4 plates according EN ISO 3452-3 with acceptance test protocol
Ref.No. 135509



Test Piece 2 (according EN ISO 3452-3)

The Test piece 2 is used for routine judgement of the fluorescent and dye penetrants in systems and tanks in which workpieces were plugged in.

The test piece consists of an austenitic base plate, one side chromed having 5 different sized star-shaped cracks and on the other side 4 different surface roughness grades. The rough areas are used for the check for the intermediate cleaning.

Test Piece 2 according EN ISO 3452-3 with acceptance test protocol
Ref.No. 135510



Test Piece according to ASME

The ASME test piece is used to control the indication sensitivity of penetrants. Due to its separation into two halves a direct comparison of two penetrants is possible.

ASME Test Piece
Ref.No. 135520

Standard devices

Penetrant testing is a versatile method in the non destructive testing. In practice it is used to detect cracks and other flaw imperfections open to the surface.



Manually operated dipping plant



Manually operated dipping plant



Activated carbon filter system

Special units



State-of-the-art penetrant systems including drying furnace to test aircraft part

If you wish more detailed information about our special systems, simply get in touch with one of our worldwide representations or one of our employees. They will be pleased to give you a review, which custom-specific test problems were solved by our company in the last years.

Until now for almost every test task we found a solution independent of whether it is a matter of austenitic aeronautical parts, aluminium parts or aluminium-alloyed steering boxes or pistons.