



Crack Detection with Dye Penetrant

Correct Practice

Fluorescent Dye Penetrant Inspection is the NewArc™ approved method of crack detection both before and after straightening. This method of inspection is the industry standard for crack detection. It is used to detect cracks in critical components such as axles, crankshafts and turbine blades. The proper steps in the process begin with a thorough cleaning of the damaged area.



Once the damaged area is clean, some cracks are easily visible to the naked eye. In such a case, dye penetrant inspection is obviously not necessary.



However some areas can be cracked and the crack is only detectable under a special black light process.



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The crack was not visible until inspected under a black or ultra-violet light, using a special fluorescent dye penetrant. The dye is applied to the area and, after the dye has had time to penetrate the surface of the metal. Shined from about 4 inches away, the UV light will detect any dye remaining in even the slightest of surface cracks. Avoid trying this process in direct sunlight. The darker the conditions the better it will work.



Proper application of the dye penetrant is to spray the fluorescent mixture over the entire span of the bend. After you have wet the area, wait a couple of minutes to make sure the dye sinks in to areas not readily visible. Then wipe the area clean with a dry paper towel. Any trace of remaining dye will be visible under the UV light. If the process reveals a surface crack, the wheel will be rejected for straightening.