

# Qiming Machinery Cone Crusher Wear Parts Dye Penetration Inspection





## Cone Crusher Wear Parts Dye Penetration Inspection Report

Cone crusher wear parts include cone crusher bowl liner and cone crusher cone liner, some of our customer need us to supply those wear parts dye penetration inspection report. This paper is one of our customer cone crusher mantle dye penetration inspection report.

### Dye Penetration Inspection Fundamental

Use the colorant on the surface of the material, the colorant penetrates the damaged area. Rinse off the surface colorant after standing for a while. Apply the developer to the cleaned surface, and the damaged area can be seen clearly because the colorant penetrates into it. The capillary phenomenon is mainly used to infiltrate the penetrant into the defect, and the surface penetrant is removed by cleaning with a cleaning agent, while the penetrant in the defect remains, and the capillary action of the developer is used to adsorb the remaining penetrant in the defect to achieve the purpose of inspecting the defect.

### Dye Penetration Inspection Steps

#### Wear Parts Cleaning

Before applying the penetrant on the surface to be inspected, the surface of the workpiece should be cleaned with a cleaning agent, so that the surface to be inspected is free of oil, rust, chips, paint layers and other dirt (such as when inspecting the weld, There should be no dirt such as scale, welding slag, splashes, etc.), and then the surface of the workpiece to be inspected should be sufficiently dry.

#### Color Penetration

After uniformly spraying the surface of the treated workpiece with a penetrant, permeate for 5-15 minutes.

#### Wash and Dry

After 5-15 minutes of penetration, before applying the developer: 1. Use a cleaning agent to clean the penetrant sprayed on the surface of the workpiece, so that the surface to be inspected should be cleaned; 2. Wipe dry with clean gauze or dry naturally at room temperature Note: When removing excess penetrant, prevent over- or under-cleaning (make sure that there is no penetrant on the surface of the workpiece).

#### Imaging

After the developer is sufficiently shaken, uniformly spray the surface of the tested workpiece (the workpiece that has been cleaned and dried) at a distance of 150mm-300mm, the spray angle is 30 ° -40 °, and the development time is not less than 7 minutes.



### Observed

1. Observation and display of traces should start from the application of the developer until the size of the traces does not change, about 7-15 minutes. Observation and development should be performed within 7-60 minutes after the application of the developer.
2. Observation shows traces, which must be performed under sufficient natural or white light.
3. Observation shows traces, with the naked eye or 5--10 times magnifying glass.
4. When it is impossible to distinguish the true and false defects, a retest should be performed on the part.



### Judgment and recording of results

- Determine the size and severity of the defect based on the size of the display trace and the intensity of the color.
- Defects show that the ratio of the length to the width of not less than 3 is called linear defect marks. Long defects show linear marks.
- A defect defect whose length to width ratio is less than 3 is called a circular defect mark. Defects that are approximately circular, such as pores, will show round marks.
- Defects show traces, and are recorded with photographs, schematic diagrams, or peelable developers as needed.
- Mark the part of the inspected surface defect showing a mark. Defective workpiece as shown in the picture Note: For reworked parts, when inspection is needed at the repaired part, the inspection range should be expanded. After the inspection is completed, the developer on the surface to be inspected shall be removed.