Impact Test According to ISO 21809-3

Description

G.1 General

The test consists of verifying the strength of the FJC by the impact of a punch of defined shape falling directly onto the coating from a fixed height and at a fixed temperature. The test shall be carried out on pipes or cut samples. This test shall not be carried out on pipes with a diameter of less than 50 mm.

G.2 Equipment

Drop weight testing machine, consisting of the following:
âŽ¯ straight guide made of steel, aluminum or plastic, rigid and non-deformable, with an inside diameter between 40 mm and 60 mm, length at least 1,30 m and incorporating a smooth and even inside surface;
âŽ¯ support and levelling device (for example, two spirit levels for the horizontal plane and a plumb-line for the vertical plane);
âŽ¯ graduated rod, to determine the drop height to an accuracy of 5 mm;
âŽ¯ hard steel punch, with a hemispherical head, free from notches, porosity or other surface irregularities
and with a diameter of 25 mm (A small metal rod with a diameter of 6 mm shall be fixed perpendicular to
the flat face of the head, and in its center; this rod shall be long enough to hold the additional weights required for the tests. The punch shall be equipped with a system for raising it to the required height; the
mass of this assembly shall be 1 Â± 0,005 kg.);
âŽ¯ number of weights, formed of metal discs (preferably made of stainless steel) with an outside diameter of approximately 24 mm and incorporating a central hole of diameter 6,5 mm. The mass of each disc shall
have an accuracy of Â± 5 g.
Other guides may be used by agreement.

G.3 Procedure

The test shall be carried out at a temperature of 20 Â°C Â± 5 Â°C. If the test is performed outside this temperature range, the method described shall be adapted, by agreement.
The coated component shall be placed on a rigid, stable, horizontal support, and the component interior shall be supported to reduce its elastic response.
Before carrying out an impact test, the holiday detection test shall be undertaken (see Annex B) to identify
defective points and to avoid impact testing at these locations. If the number of faults found is too high, another coated test piece shall be taken.
For each point of impact, the drop weight testing machine shall be placed perpendicular to the coating surface.
The loaded punch shall fall freely without friction or resistance.

The drop height is 1 m. Ten impacts shall be carried out with the required energy. The points of impact shall be at least 50 mm to the side of the weld bead and/or the pipe end and there shall be at least 50 mm between the axes of the impacts.
The holiday detection test shall then be undertaken at each location (see Annex B).
The hard steel punch shall be checked every 30 impacts. If damaged, it shall be replaced.

G.4 Results
The impact energy and the actual coating thickness shall be recorded.

Impact Tester According to ISO 21809-3

- Steel guide with inner diameter according to the standard
- Guide length of 1.4 m
- Includes leveling device
- Graduated rod for easy height adjustment
- Rigid base for sample placement
- Hemispherical impact head of 25mm diameter
- Head with a 6mm diameter mass holder
- Mass holder and hemispherical head assembly weight is 1 KgÂ± 0,005 kg
- 10 pcs of mass discs with an inner hole of 6.5mm and outside diameter of 24mm
- Release of weight is manual
- Easy adjustment of mass drop height

Category

1. Equipment for Standards
2. Standards