Mechanical Cupping Test

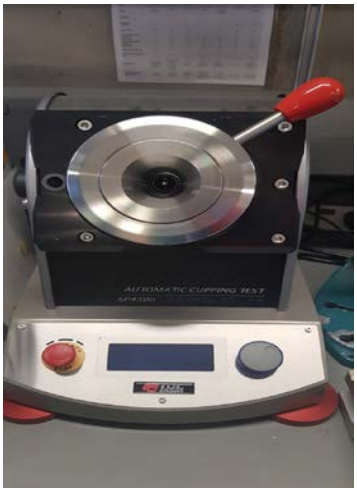
Principle:

A cupping test involves applying a punching force to the surface of a metal from around 0.2 mm to 2mm creating a cup shaped depression. This is an important test to assess the ductile properties of a metal.

This test can also be performed to test the elongation of a coating thickness which has been applied onto a metal. This helps visualise any chips or cracks formed in the surface coating once the metal has been punched.

Current Model / Procedure:

- A piece of metal is placed in the cupping machine.
- The metal is manually punched till it cracks, this acts as the 100% indentation level
- The 80% indentation can be calculated from this and is used for the sample
- A visual inspection is carried out.



Video link: https://www.youtube.com/watch?v=MN-IxIlA6DA

Typical samples:

Samples which are subjected to cupping testing are painted panels, flat substrates.

Instrument Description

Sub Folder: Physical Analysis

Standards:

Samples can be assessed in accordance with international standards ISO 20482:2013, 1520:2006.

Contact: Dr Irina Pascu, irina.pascu@tudublin.ie +353-1-220-6911