

Elcometer 1620 Cupping Tester



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At a glance

- Robust and very easy to use cupping tester for metal sheets up to 1.2mm thick.
- Available in manual or motorised versions with analogue or digital displays.

Elcometer 1620 Cupping Tester

These robust and user-friendly instrument for are used for assessing the cupping capability of coatings applied onto metal sheets up to 1.2mm (0.05”) thick.

The Elcometer 1620 has a 27mm (1.06”) diameter hardened steel die in a clamping device and a 20mm (0.79”) diameter punch. A hand– rotated crank and reduction drive moves the punch progressively into the sample. This method gives good repeatability.

A motorised version is also available which replaces the manual crank handle. This ensures perfect reproducibility with constant cupping speed of 200µm per second (7.9mils per second).

The Elcometer 1620 is available with either an analogue or a digital gauge and both models are supplied with an illuminated magnifier to accurately view the deformation’s results. A CCD Video system can also be supplied as an accessory.

The Elcometer 1620 provides accurate (10µm / 0.4mils) readings of the cupping depth on an integrated gauge and direct viewing of the fissures cracks and tears in the coating.

Elasticity & Resistance Deformation

Elasticity and resistance to deformation are part of the key physical properties required in the coatings industry today. Essentially there are three different test methods which are used to determine a coating’s performance under different deformation conditions.

Bend Test : A coated metal sheet is bent over a cylindrical or conical mandrel and the coating observed for cracks and discolouration.

Impact Test : A coated metal sheet is placed beneath a falling weight and the resultant damage caused by the deformation is observed. The impact test method is used to identify how the coating performs under a rapid deformation process.

Cupping Test : A coated sheet metal is subjected to a gradual deformation by a polished die. This deformation is caused by the die being pushed from beneath the coating – i.e. from the reverse side of the sheet metal. The end-point is when the coating begins to crack.

Can be used in accordance with:	
BS 3900 E4	DIN 53156
DIN EN ISO NF 1520	DIN 53232
NBN T22-104	NF T 30 019

Model	Description	Gauge Type	Part Number		
			UK 240V	EUR 220V	US 110V
Elcometer 1620/3	Elcometer 1620 Motorised Cupping	Analogue (mm)	K0001620M003		-
Elcometer 1620/3	Elcometer 1620 Motorised Cupping	Analogue (mils)	-	-	K0US1620M003
Elcometer 1620/5	Elcometer 1620 Motorised Cupping	Digital (mm, mils)	K0001620M005		K0US1620M005
Elcometer 1620/2	Elcometer 1620 Manual Cupping Tester	Analogue (mm,	K0001620M002		
Elcometer 1620/4	Elcometer 1620 Manual Cupping Tester	Digital (mm, mils)	K0001620M004		
Accessories	Lighting Magnifying Glass		KT001620P004		
Packing List	Elcometer 1620 Cupping Tester, Gauge, Gauge holder (for setting zero), Zero setting sheet, Illuminated magnifying glass with magnet, Mains cable (motorised models only) & Operating instructions				

Related products



Elcometer 1510

The particularly robust and rigid construction of the Elcometer conical mandrel tester is used in the determination of elasticity, adhesion and elongation of paint on sheet metal. The specimen can be bent on part of or along the entire length of the mandrel, and the results (cracks) corresponding to different test diameters can be observed in a single operation.



Elcometer 1506

This cylindrical mandrel bend tester consists of a robust frame which has a bending lever, with height adjustable rollers and a sliding vice for the sample. Thanks to its design, the instrument can be adapted to the diameter of the mandrel used are bent perfectly and regularly over the mandrels.



Elcometer 1615

Used for evaluating the resistance of a coating to impact (elongation, cracking or peeling). A weight with hemispherical ends falls on the coated side or reverse of a sheet metal specimen fixed onto a corresponding die. The impact testers can be supplied with accessory kits to allow tests to be in accordance with ASTM D 2794 and NF T30 017.



Elcometer 1542

Simple but effective method for determining the adhesion of a large variety of coatings. The instrument is ideal for testing the adhesion of thin coatings on flat surfaces using the cross cut method, available with three different spacings 1, 2, and 3mm, corresponding to the thickness of layer to be tested.

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