

Elcometer 501 Pencil Hardness Tester

Can be used in accordance with:
ASTM D 3363, BS 3900-E19, ECCA T4*,
EN 13523-4, ISO 15184, JIS K 5600-5-4



The pencil hardness test, also referred to as the Wolff-Wilborn test, uses the varying hardness values of graphite pencils to evaluate a coating's hardness.

The Elcometer 501 Pencil Hardness Tester has been designed to ensure that the cylindrical pencil lead is maintained at a constant angle of 45° and exerts a force of 7.5N.

The pencil lead, prepared beforehand using the special sharpener and abrasive paper, is inserted into the Elcometer 501 hardness tester and pushed over the smooth, flat coated surface.

The lowest hardness value of the pencil which marks the coating determines the coating's hardness rating.

Technical Specification

Part Number	Description	Certificate
H501----1	Elcometer 501 Pencil Hardness Tester	o
Dimensions (with Pencils)	130 x 130 x 50mm	
Weight	2.1kg	

Packing List

Elcometer 501 Pencil Hardness Tester
Pencil set (14 pencils, grades 6B - 6H)
Positioning Block
x2 Pencil Sharpener
Abrasive Paper Block
Carry Case
Operating Instructions



o Optional Calibration Certificate available

* Standards not in bold have been superseded but are still recognised in some industries

Accessories

T99923040-1	Pencil Sharpener (6H to 2B)
T99923040-2	Pencil Sharpener (3B to 6B)
T99923039	Set of 14 Pencils (6B to 6H)
T99923042-1	12 Hardness Pencils (6B)
T99923042-2	12 Hardness Pencils (5B)
T99923042-3	12 Hardness Pencils (4B)
T99923042-4	12 Hardness Pencils (3B)
T99923042-5	12 Hardness Pencils (2B)
T99923042-6	12 Hardness Pencils (B)
T99923042-7	12 Hardness Pencils (HB)
T99923042-8	12 Hardness Pencils (F)
T99923042-9	12 Hardness Pencils (H)
T99923042-10	12 Hardness Pencils (2H)
T99923042-11	12 Hardness Pencils (3H)
T99923042-12	12 Hardness Pencils (4H)
T99923042-13	12 Hardness Pencils (5H)
T99923042-14	12 Hardness Pencils (6H)

Video



YouTube Video - How to measure coating hardness using the Elcometer 501 Pencil Hardness Tester Wolff Wilborn Pencil Hardness Test (Click on the image to the left to view the video)

One of the most common methods of determining coating hardness is the pencil hardness test, also known as the Wolff-Wilborn method, where a pencil of a known hardness is pushed across the coating at a specified angle, under a constant force.