

**Package Hardness Meter  
L 5700 DUROMETER**



## SCOPE

The Package Hardness Meter L 5700 DUROMETER is used for fast and convenient determination of the hardness of warper beams, yarn cheeses and fabric packages in warping, spinning, winding and dyeing. By means of two optional test bodies the instrument is suitable for delicate test specimens (L 5700-DEL) and extremely hard test specimens (L 5700-HRD). Therefore,

## FUNCTION

The measuring principle employed is based on a spring loaded hemisphere which is pressed into the package until the inherent material forces balance out the test force. The balance force in Newton is digitally displayed by the instrument as a measure for the package hardness.

A number of unique features provide for an unmatched measuring accuracy and make the test result largely independent of the operator:

- **Large test body:** Since the large hemisphere cannot slip in-between the yarn windings nor pierce the fabric, the instrument provides more reliable test results than the commonly used Shore hardness meter which utilizes a metal tip for penetration of the package.
- **Integrated alignment aid:** A flat, moveable front plate allows the operator to easily position the instrument perpendicularly on the package. The same front plate keeps the package flat in the immediate

vicinity of the test area, thus establishing a perfect reference plane for the test.

Since at a given geometry the package hardness correlates rather well with the package *density*, the instrument is also well suited for determination of this important parameter.

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- **Integrated pressure sensors:** Due to a sophisticated sensor system which activates the instrument always at a given pressure and only at correct perpendicular orientation, the test results are practically not affected by the pressure applied by the operator, and incorrect test results caused by coarse angle errors are avoided.
- **Automatic averaging:** In practical use the package hardness is determined by two successive tests, and the two test results in Newton are automatically averaged and rounded to the nearest whole number. This leads to well reproducible test results.
- **Single-button operation:** With a single push button the instrument is extremely simple to operate.

The instrument can be calibrated and is supplied with an ISO conform calibration certificate.

## TECHNICAL SPECIFICATIONS

- Test body (hemisphere):
- Penetration:
- Test force:
- Useable measuring range:
- Measuring accuracy:
- Measuring resolution:
- Display format single / dual measurements:
- Power requirement:
- Battery life time:
  - zinc carbon battery:
  - alkaline battery or rechargeable battery:
- Dimensions (h x w x l):
- Net/gross weight:

Standard Test body	Optional test bodies (not included)	
	L 5700-HRD	L 5700-DEL
Ø 25 mm (1")	Ø 10 mm (0.4")	Ø 25 mm (1")
0 to 15 mm	0 to 15 mm	0 to 7.5 mm
10 to 70 N	10 to 70 N	10 to 40 N
11 to 68 N	11 to 68 N	11 to 38 N
± 1 N		
0.2 N		
XX.X N / XX N		
1 battery UM-2 / R-14, 1.5 V		
	approximately 500 measurements	
	approximately 1,000 measurements	
9 x 9 x 21 cm		
0.8 / 1.5 kgs.		