MASHPROJECT LLC

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# TKM-359CE

## LEEB HARDNESS TESTER

Manufactured in compliance with DIN standard


**High precision hardness tester TKM-359CE** intended for quick measuring of metal items in laboratorial, manufacturing and field conditions.

Device is intended for non-destructive testing of production quality in metallurgy, mechanical engineering, aircraft, shipbuilding, atomic industry, oil and gas industry.

Hardness tester functions by Leeb method.

Impact proof, ergonomic housing (IP 65)

## TKM-359CE CONTROLS HARDNESS OF FOLLOWING:

- All basic types of metals and alloys without additional calibrations (structural, tool, corrosion-proof, heat-proof, non-corrosive steels and alloys as well as alloys of nonferrous metals, cast iron, aluminium, bronze, brass)
- Items with surface hardening and high frequency current hardening
- Items of complicated configuration
- Heavy and big items with rough surface

## EXPLOITATION ADVANTAGES


- Wide range of controlled metals and alloys
- Low sensitivity to the curvative and roughness of surface
- Monitoring of hardness change along the surface
- Stable measurements independent from force and time of pressing the probe to the surface
- Possibility of material identification in blank production
- Control of "volumetric" hardness.

## FEATURES OF TKM-359CE

1. Impact-, dust- and water- proof housing;
2. Intuitive "plug and play" graphic interface;
3. Bright color graphic display allows working at below zero temperature and stays bright at any lighting;
4. Signalization of exceeding of prescribed readings threshold;
5. Unique system of statistic data processing;
6. Fast adjustment of device readings by one or 2 standard test blocks;
7. Intellectual averaging of readings;
8. Flexible device memory for recording of readings and their analysis;
9. Programming of additional scales calibrations of hardness tester by 2 or less standard test blocks;
10. Fast programming of additional scales by 2 to 10 standard test blocks



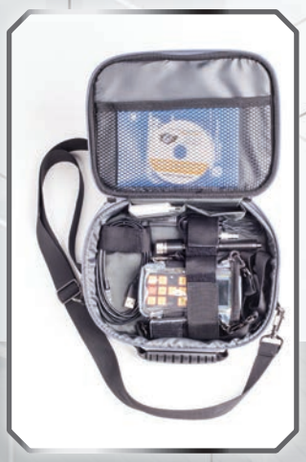
## HARDNESS TESTER MODES:

| Measurement mode | Readings | Using |
|---|---|---|
| By basic scales | Basic hardness units (HRC, HB, HV) | Hardness testing of the bulk of products |
| By additional calibrations to basic scales | By HRA, HRB, HSD scales and ultimate tensile strength | Hardness testing of high-alloy steels, special cast iron and nonferrous metals |
| By additional scales | Scales are programmed by the user | Special problems solving |

## REQUIREMENTS TO CONTROLLED ITEM:

- Items heavier than 5 kg and thicker than 6 mm need no additional preparation
- Hard items (eg tubes) with awaited hardness from 90 to 250 HB and thicker than 4 mm need no additional preparation
- Other items should be fixed on a support plate by fixing paste
- Roughness of controlled surface providing best measurement accuracy depends on a probe.

## BASIC DELIVERY SET



| Elements | Quantity |
|---|---|
| Electronic unit | 1 |
| Accumulator (pre-installed) | 1 |
| D-type probe | 1 |
| Connecting cable | 1 |
| Charger | 1 |
| CD with software | 1 |
| Operation manual | 1 |
| PC cable | 1 |
| Soft case | 1 |
| Cuff to fix device on arm | 1 |
| Bag for carrying and storing | 1 |

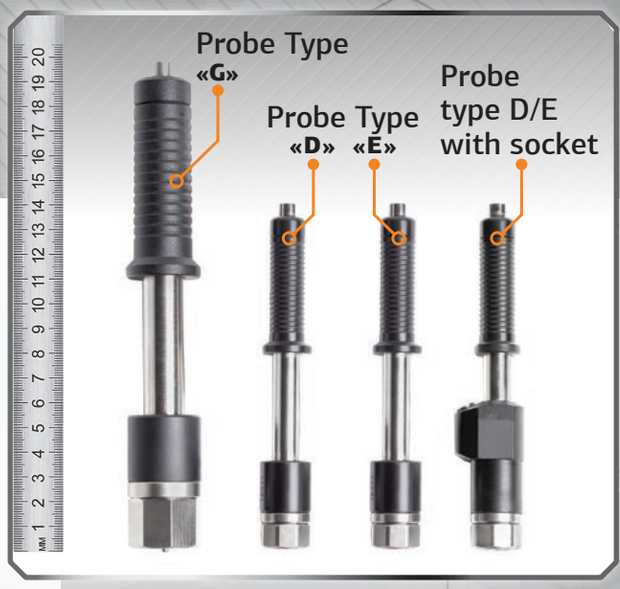
## ACCESSORIES

1. Replaceable probes of different construction and impact force
2. Special head “Z-359” for easier probe positioning on complex surfaces
3. Connection cables.

Special head «Z-359»

## PROBES CHARACTERISTICS

| Probe Type | Length, mm | Diameter, mm | Application |
|---|---|---|---|
| D | 138 | 21 | Solving the bulk of control problems |
| G | 200 | 29 | Control of items with high structural heterogeneity and roughness Ra from 3.2 |
| E | 138 | 21 | Probe with indenter made of polycrystalline of boron nitride intended for control of materials with high hardness |




## MAIN TECHNICAL PARAMETERS:

| | |
|---|---|
| Accuracy | **3%** |
| Calibration error with the first rate test blocks | |
| Rockwell | **1.5 HRC** |
| Brinell | **10 HB** |
| Vickers | **12 HV** |
| Spot diameter on the item surface for probe positioning | **From 7 mm** |
| Quantity of possible additional calibrations of scales | **5 for every scale** |
| Quantity of additional scales | **3** |
| Duration of one measurement | **2 seconds** |
| Quantity of measurements for average reading calculation | **1-99** |
| Memory capacity, readings | **12400** |
| Maximum quantity of name units of readings generated in memory | **100** |
| Quantity of algorithms for known to be false readings during average value calculation | **3** |
| PC Connection | **USB** |
| Power Supply | **LI-ion accumulator** |
| Dimensions of hardness tester electronic unit | **121*69*41** |
| Weight of electronic unit | **0.3 kg** |
| Weight of D-probe | **0.15 kg** |
| Operating temperature range | **-15…+50°C** |
| Guarantee period | **2 years** |

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