

EDS

Engineering,
GM DAEWOO Auto & Technology.
Standards

ROCKWELL HARDNESS TEST OF PLASTICS

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1. PURPOSE

This standard aims at specifying the method of measuring Rockwell M, L and R hardness of plastics. In principle, the range of M, L and R hardness shall be 50 ~ 150. Plastic film tapes and plastic foam are excluded.

2. DEFINITION

2.1. Rockwell hardness

When the ball indenter is preliminary pressed under the minor load, additionally under the major load and then under the minor load again, the hardness is determined by the difference between the depth "h" of indentation under those two minor loads mentioned above. The type of the indenter, minor load, major load and hardness defining formula are as shown in the Table.

2.2. Scale of hardness

In case of Rockwell hardness, the "scale" is so defined as a combination of indenters, major load and hardness defining formula, with an inherent symbol. The content is as shown in the Table.

Table

Scale	Rockwell hardness	Indenter diameter	Minor load (Kgf)	Major load (Kgf)	Hardness defining formula
R	HRR	12.7±0.0025 mm (1/2 In)	10	60	130~500h (h in mm)
L	HRL	6.35±0.0025 (1/4 In)		100	
M	HRM				

3. CONDITIONING

Conditioning shall be done in accordance with pre-processing requirements specified in drawings or material specification. When not specified, test sample shall be soaked for 24 hours or longer at temperature of $23 \pm 2^\circ\text{C}$ and relative humidity of $50 \pm 5\%$.

3.1. Test temperature and humidity

Test shall be conducted at temperature of $(23 \pm 2)^\circ\text{C}$ and relative humidity of $(50 \pm 5)\%$.

4. APPARATUS

4.1. Construction

The apparatus shall be composed of the stand, specimen support, loading device, hardness indicator and indenter.