



**List of main tests possibilities – Material Laboratory**

Standard	Test name	Test description
<b>ISO 2813</b>	Gloss measurement	Determination of gloss value at 20°, 60°, 85°.
<b>ISO 7619-1, ASTM D2240</b>	Hardness Shore A and D (plastics and rubbers)	Rubber, vulcanized or thermoplastic - durometer method (Shore hardness)
<b>ISO 3668, SAE 361, ASTM E284</b>	Visual comparison of the colour	Visual comparison of the colour of films of paints or related products against a standard using natural daylight or artificial light sources in a standard light booth.
<b>ISO 7724, SAE J1545</b>	Colour measurement	Colour measurements (colour systems: L*a*b*, L*C*h°).
<b>ISO 1518, PSA, JLR, VOLVO</b>	Scratch resistance	Determining the resistance of plastics, paints and related products to penetration by scratching with a hard, pointed object (load 0-20N).
<b>ISO 1133</b>	Melt Flow Test	Determination of MFR and MVR for thermoplastics under certain conditions of temperature and load.
<b>ASTM E3, ASTM E407</b>	Microscopic and cross-section analysis	Examination of the microstructure of metals and plastic materials, analysis of soldering (IPC 610), inclusions, porosities, cracks and other material defects. Microscopic measurements e.g. paint layers measurements.
<b>ASTM E1252</b>	Organic materials identification	The identification is based on Fourier Transform Infrared Spectrometry (FTIR) analysis. Obtained spectrograms of the tested material are analyzed for the occurrence of characteristic signals, the identification results are also confronted with a broad base of spectrograms of various materials.
	Thermal analysis of materials	Analysis of materials properties as they change with temperature (TGA and DSC).
	Scanning Electron Microscope (SEM)	Qualitative and quantitative analysis and mapping of the elemental composition of metallic samples, evaluation of the fracture surface to determine the nature of the breakage, material discontinuities etc.