



Colour Grading according to the Gardner Colour Scale (ASTM D1544)

Lovibond Gardner Comparator 3000, AF 228



Gardner Colour Scale

The Gardner Colour scale as specified in ASTM D1544 is a single number colour scale for grading light transmitting samples with colour characteristics ranging from light yellow to brownish red. It is widely used for oils, paint and chemicals, such as resins, varnishes, lacquers, drying oils, fatty acids, lecithin, sunflower oil, linseed oil. The scale is defined by the chromaticities of glass standards numbered from 1 for the lightest to 18 for the darkest.

Lovibond Gardner Comparator 3000, AF 228

The Lovibond Gardner Comparator 3000 is a 3-field instrument for visually determining the Gardner Colour of samples by direct comparison with coloured glass standards. It incorporates the 18 glass standards which make up the scale in a pair of discs:

Disc	Position	Colour Standards
4/30-1	(left hand)	1, 3, 5, 7, 9, 11, 13, 15, 17
4/30-2	(right hand)	2, 4, 6, 8, 10, 12, 14, 16, 18

With a 3-section field of view, the sample and two adjacent standards on the Gardner Colour scale are viewed simultaneously, making it easier to achieve the optimum colour match. For rapid colour grading within predetermined colour limits, the glass standards can be set to the two limiting colours, making it easy to see if the sample is within tolerance. The tungsten halogen light source is colour corrected to CIE standard illuminant C, which guarantees constant lighting conditions for colour grading, day or night, whatever the ambient lighting.

Principle of Operation

The sample is poured into a 10.65 mm diameter test tube and placed in the sample hole in the comparator. The sample is viewed through a prism which brings the sample and the colour standards into adjoining fields of view. The two discs containing the colour standards are rotated by turning the control knobs on the front of the comparator until the colour of the sample falls between two standards which are 1 Gardner Colour unit apart, or until it exactly matches one of the standards. The reading given directly as Gardner Colour is then taken from the scale on the control knobs.

Technical Specification

Measuring principle	Visual comparison with coloured glass standards
Mode	Transmittance
Viewing system	Prismatic with integral blue filter for light standardisation
Light source	Tungsten halogen lamp, 12 Volt, 20 Watt
Illuminant	C
Power pack	12 Volt ac, switchable to suit 220/110 Volt supply
Approvals	CE
Instrument housing	Fabricated mild steel
Dimensions	Width 235 mm, depth 245 mm, height 90 mm
Weight	4.9 kg

The Lovibond Gardner Comparator 3000 is supplied with a single test tube of 10.65 mm diameter.

Accessories

Certificate of Conformity confirming that the glass standards conform to the required colorimetric co-ordinates of ASTM D1544

Test tube 10.65 mm diameter, AF 228/T (Order Code 35 22 80)

Tungsten halogen lamp, 12 Volt, 20 Watt (Order Code 12 23 40)