Rubert 100 Series Heavy Duty Surface Roughness Comparator

Can be used in accordance with: BS 2634, ISO 2632, and ASME (formerly ANSI) B46.1

These comparators are intended for heavy duty use in workshop or shop floor environments. Each one consists of between 5 and 8 specimens mounted in a tough nylon frame and protected by a leather wallet. The specimens in each comparator are metal surfaces produced by the same machining process, but with roughness values ranging from the roughest to the smoothest normally obtained by that process. The nominal values are the ones specified in the various standards that describe roughness comparison specimens: BS 2634, ISO 2632, and ASME (formerly ANSI) B46.1

The actual average values of the roughness are well within the tolerances – usually +12%, -17% of the nominal value. The label on the front of the scale states the nominal Ra value in both Microns and Micro Inches. Full details on roughness values are shown below

Applications

Use the comparison specimens to estimate the roughness of a machined surface, in order to select a cutoff value prior to accurate measurement by a stylus instrument (as specified in BS EN ISO 4288). Besides that they also provide valuable guidelines and references which can be consulted during the machining of a part whose roughness has been specified on the drawing.

Method of Use

Comparison specimens are easy to use. Just run a fingernail over your work piece, and then over the specimens. Estimate its roughness by comparing with the scale of specimens.

Technical Specifications

			Range of Roughness Values	
Item No	**Machining Method**	**No of Patches**	**Ra (µm)**	**N-Groups**
115	Surface Grinding	8	0.025 to 3.2	1 to 8
116	Cylindrical grinding	8	0.025 to 3.2	1 to 8
117	Flat Lapping	4	0.025 to 0.2	1 to 4
	Criss-cross / parallel	4	0.025 to 0.2	1 to 4
118	Cylindrical lapping + superfinishing	8 (4+4)	0.025 to 0.2	1 to 4
119	Face turning	8	0.4 to 50.0	5 to 12
120	Cylindrical turning	8	0.4 to 50.0	5 to 12
121	End Milling	8	0.4 to 50.0	5 to 12
122	Reaming and drilling	8 (4+4)	0.4 to 3.2 1.6 to 12.5	5 to 8 7 to 10
123	Horizontal Milling	7	0.8 to 50.0	6 to 12
125	Shaping (planning)	7	0.8 to 50.0	6 to 12
126	linishing (belt sanding)	6	0.1 to 3.2	3 to 8
128	Vertical grinding	6	0.2 to 6.4	4 to 9
129	Grit blasting (angular particles)	6	0.4 to 12.5	5 to 10
58	Shot blasting (spherical particles)	6	0.4 to 12.5	5 to 10
131	Spark erosion (EDM)	7	0.4 to 25.0	5 to 11
133	Hand filing	5	0.4 to 6.4	5 to 9
134	Castings	7	0.8 to 50.0	6 to 12
135	Honing	6	0.05 to 1.6	2 to 7
136	Polishing	5	0.0125 to 0.2	0 to 4

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