

# ***Paint Test Equipment***

## **Roughness Comparator**



**Surface Roughness**

# Roughness Comparator



## Information

ISO 8503-1: Preparation of steel substrates before application of paints and related products. Surface roughness characteristics of blast-cleaned steel substrates. Part 1: Specifications and definitions for ISO surface profile comparators for the assessment of abrasive blast-cleaned surfaces.

ISO 8503-2: Preparation of steel substrates before application of paints and related products. Surface roughness characteristics of blast-cleaned steel substrates. Part 2: Method for the grading of surface profile of abrasive blast-cleaned steel. Comparator procedure.

A precision nickel Comparator plate for grit and shot-blast surface roughness comparison measurement.

When steel has been blast-cleaned, the surface consists of random irregularities with peaks and valleys that are not easily characterised. Because of this random nature, experts have recommended that the profile should be identified as either angular (where grit abrasives have been used) or dimpled (where shot abrasives have been used) and that they should be graded as fine, medium or coarse with each grade being defined by limits specified in ISO 8503.

The Roughness Comparator is supplied in a protective Wallet.

A X5 Illuminated Magnifier for viewing the Comparator is available as an optional extra.

# Roughness Comparator



The 5X Illuminated Magnifier is used for viewing the Roughness Comparator.

## Roughness Comparator Specifications

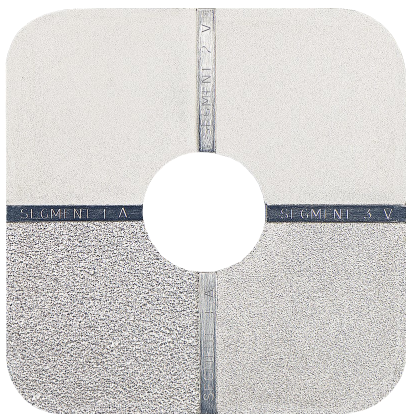
Part No	Comparator Type	Profile Segment 1	Profile Segment 2	Profile Segment 3	Profile Segment 4	Conformance Cert Part No
R2006	Grit	25µm 1mils	60µm 2.4mils	100µm 4mils	150µm 6mils	NRC01
R2007	Shot	25µm 1mils	40µm 1.6mils	70µm 2.8mils	100µm 4mils	NRC01
R2011	Illuminated Magnifier X5. Includes Carrying Case					

# Roughness Comparator Operation

## Evaluation

Remove all loose dirt and debris from the test surface.

Select the appropriate surface profile reference Comparator. The Grit Comparator is for comparing profiles after blast-cleaning with grit abrasives, and the Shot Comparator is for comparing profiles after blast-cleaning with shot abrasives.



**Grit**



**Shot**

Place the selected Comparator against an area of the test surface. Compare in turn the test surface with the four segments of the Comparator, using the Illuminated Magnifier if necessary. If the Illuminated Magnifier is used, place it so that the test surface is viewed simultaneously with a segment of the Comparator.

Assess the profiles on the Comparator that are nearest to the profile of the test surface and determine its grade from the following:

Fine-grade profiles equal to segment 1 and up to but excluding segment 2

Medium-grade profiles equal to segment 2 and up to but excluding segment 3.

Coarse-grade profiles equal to segment 3 and up to but excluding segment 4.

If any profile is assessed as below the lower limit for the fine grading, assess this grading as finer than fine.

If any profile is assessed as greater than the upper limit for the coarse grading, assess this grading as coarser than coarse.

If visual assessment proves difficult, tactile assessment may provide a useful guide. It is possible to assess the closest grading by passing the back of a fingernail or a wooden stylus held between thumb and forefinger over the test surface and segments on the Comparator alternately.



# Roughness Comparator Operation

## Care

Never place the Comparator face down on a rough surface. Keep the Comparator in the protective Wallet provided when not in use.

If the Comparator becomes tarnished, wash with a Dilute detergent solution and soft brush and dry with soft tissue.

## Practical Advice

The Roughness Comparator method is applicable to steel surfaces that have been blast-cleaned to grades Sa 2½ and Sa 3 when the surface under test shows an overall blast-cleaned appearance.

It is applicable to surfaces that have been cleaned with either metallic or non-metallic abrasives.

When a mixture of shot and grit abrasives are used to blast-clean a substrate, the Grit Surface Roughness Comparator should be used.

## About Us

Paint Test Equipment is a global leader in the manufacture of specialist test equipment specifically for the industrial painting and coating industries for the protection of steel assets from corrosion, mainly in the oil, renewables and steel construction sectors. We have over 30 years experience and extensive knowledge in delivering practical solutions in supporting our customers with world class products for corrosion prevention.

Prevention of corrosion on steel is essential to extend the asset lifetime, optimise performance and minimise downtime for expensive maintenance work. Using Paint Test Equipment products ensures that industrial coatings are applied to the highest achievable quality standards of ISO compliance.

We supply small, medium and multinational companies with the full range of technologies and innovations in our unrivalled portfolio of products for our customers to grow their business and enhance profits through cost effective corrosion management equipment.

Paint Test Equipment is committed to providing proactive and innovative solutions to meet customer requirements for the highest quality, user friendly inspection equipment. Paint Test Equipment is the partner of choice.

Paint Test Equipment reserves the right to alter specifications without prior notice.  
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