# Paint Test Equipment

## Surface Roughness

# Testex Tape

A unique replica technique and a snap gauge enable accurate, blast-cleaned surface profile measurements. Testex Tape makes surface replicas easy to obtain and produces average maximum peak-to-valley readings that ensure optimum blasting effectiveness. Replicas can be retained for future needs.

### Information

The Testex Gauge is used to measure the Testex Tape replica and determine the average maximum peak-to-valley height of the blasted profile.

The replica film in the Testex Tape consists of a layer of crushable plastic microfilm coated onto a polyester substrate of a highly uniform thickness 50µm (2mil). When compressed against a hard surface, the Microfoam collapses to about 25% of its original thickness.

During compression the foam acquires an impression of the surface against which it is burnished. The highest peaks on the test surface displace the fully compressed foam and come to rest against the polyester substrate. The deepest valleys on the test surface create the highest peaks on the replica.

This method measures an average maximum peak-to-valley profile. The anvils of the Testex Gauge flatten the replica profile slightly so that the reading equates to an average maximum value.

### Specification

Testex Gauge accuracy: ±1%FSD.

Temperature: Produces accurate replicas on surface temperatures of -10 to +65°C.

Storage: Do not expose the Testex Tape to any extremes of temperature or daylight.

Shelf Life: The replica foam has no expiry date. The only degeneration is the adhesive on the Tape. We would recommend that the Tape is used within a 12-month period from date of purchase.

### Compliance

ISO 8503-5, ASTM D4417 and NACE SP0287.

## Supply

The Testex Gauge is supplied in an industrial foam-filled Carrying Case with a Burnishing Tool.

The Testex Gauge Calibration Certificate with traceability to UKAS is an optional extra.

| Part No | Product |
|---|---|
| R1001 | Testex Tape Coarse (50 impressions) 20–64µm (0.8–2.5mils) |
| R1002 | Testex Tape X Coarse (50 impressions) 40–115µm (1.5–4.5mils) |
| | |
| R1004 | Testex Gauge. Includes Burnishing Tool |
| | |
| NR001 | Testex Gauge Calibration Certificate |
| NRC02 | Testex Tape Conformance Certificate |
| | |
| RS001 | Spare Burnishing Tools (pack of 20) |

### Taking Replicas

Locate a representative area of the surface for measurement and select the appropriate grade of Testex Tape based on your target profile (Coarse or X Coarse). For 20 to 64µm (0.8 to 2.5mil) profiles use the Coarse grade. For 38 to 115µm (1.5 to 4.5mil) profiles use the X Coarse grade.

### Taking Replicas continued

Remove a single piece of Testex Tape from its release paper. The replica material is the square, white plastic film in the centre. A bulls eye circle of paper should remain behind on the release paper (this is not used in the measurement).

Apply the Testex Tape to the blast-cleaned surface and rub the Burnishing Tool over the replica film in the centre of the tape, using firm pressure. The circular cut-out will become darker as the surface is replicated. Make sure that the entire circular area has darkened uniformly.

### Measurements

Prepare the Testex Gauge by cleaning the anvils and adjusting the dial to read zero.

Remove the Testex Tape from the Surface and place the replica between the anvils of the Testex Gauge, making sure that it is centred properly. Release the Gauge anvil gently onto the replica and measure the profile. Subtract 50 microns from the measurement for the thickness of the polyester substrate. The gauge reading is the average maximum peak-to-valley height of the blast-cleaned surface.

If a measurement with either Coarse or X Coarse grade is between 38 to 64µm (1.5 to 2.5mil) take a second reading with the other grade of tape and average the reading. A graphic illustrating the ranges over which averaging should and should not be applied appears on each piece of tape.

### Care

Always ensure rust paper is placed between the anvils when the Testex Gauge is not in use.

# Blast Profile Comparator

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

### Information

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 Blast Profile Comparator method is applicable to steel surfaces that have been blast-cleaned with either metallic or non-metallic abrasives to grades Sa 2½ and Sa 3.

### Specification

Profile Segment 1: Grit 25µm. Shot 25µm.
Profile Segment 2: Grit 60µm. Shot 40µm.
Profile Segment 3: Grit 100µm. Shot 70µm.
Profile Segment 4: Grit 150µm. Shot 100µm.

### Compliance

ISO 8503-1, ISO 8503-2 and ASTM D4417.

### Supply

Supplied in a protective Wallet.

| Part No | Product |
|---|---|
| R2006 | Blast Profile Comparator Grit |
| R2007 | Blast Profile Comparator Shot |
| NRC01 | Blast Profile Comparator Conformance Certificate |

### Preparation

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.

### Evaluation

Place the selected Comparator against an area of the test surface. Compare in turn the test surface with the four segments 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.

### 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.

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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.

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