

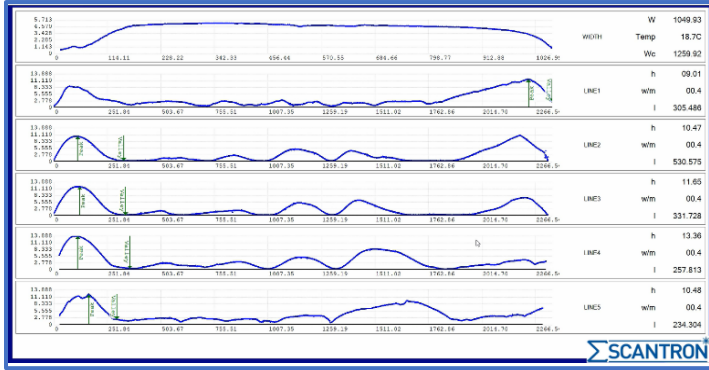
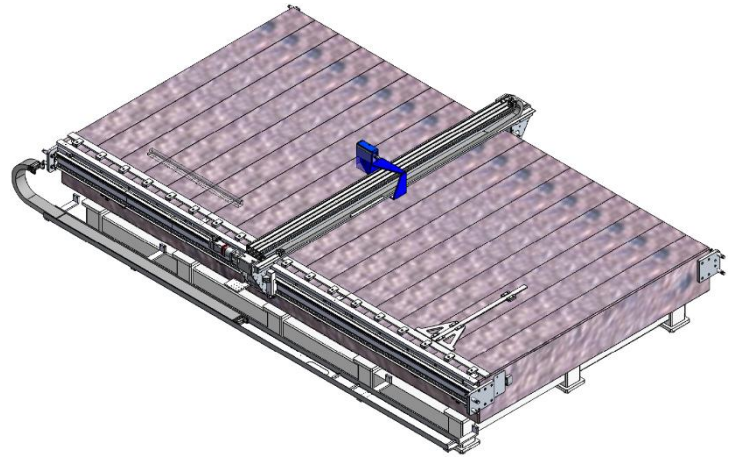
PROSCAN MAGNUM

PRECISE NON-CONTACT SURFACE AND SHAPE MEASUREMENT SYSTEM FOR SHEET PRODUCTS



EVERYTHING REQUIRED FOR HIGHLY ACCURATE SHAPE AND FLATNESS MEASUREMENT

The Proscan **Magnum** is a non-contact shape table for offline measurement of sheet and strip products. Stresses within the rolled and levelled strip materials mean a residual 'shape' remains within the material. The shape is evident when the strip is laid on a flat surface and small waves may be detected. The Proscan **Magnum** accurately measures and quantifies the latent shape in the sample and provides absolute values of wave height, waves/metre, and I-units.



THE PROSCAN MAGNUM MEASUREMENT TECHNIQUE

Using a precision gantry system, a laser scans the surface and measures the sample height. For every X & Y co-ordinate position a height measurement (Z) is taken. The resultant X, Y, Z data file is used to calculate the surface shape.

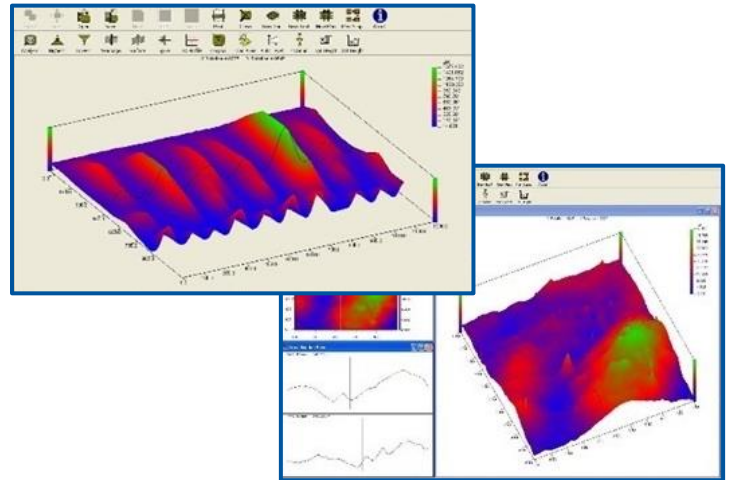
The shape is quantified by calculating the I-unit for each longitudinal scan.



PROSCAN MAGNUM COMES WITH PROSCAN 2000 PROFILOMETRY SOFTWARE

Developed and refined over the last 20 years, Proscan 2000 profilometry software is extremely powerful in providing you with a multitude of surface roughness parameters and filter algorithms.

Step size and number of steps in X and Y are all programmable, so the smallest indent or damage can be measured to micron resolution.



Typical 3D Views of Scans Taken on Aluminium Sheets



A SHAPE TABLE WITH FULL PROFILOMETRY SOFTWARE

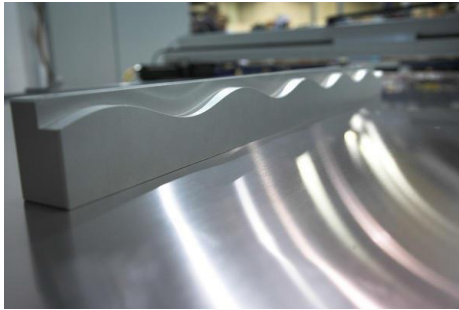
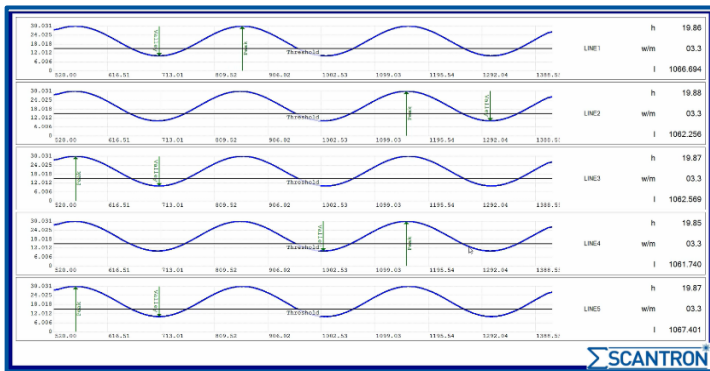
The flatness is expressed in the industry standard I-units where $I = (\Delta L/L) \times 10^5$
This can be expressed as

$$I = \left(\frac{H\pi}{2L}\right)^2 \times 10^5$$

Where I I-units
H wave height
L wavelength

MEASUREMENT REPORT

- All measurements saved to database (I-units, waves/metre and wave height)
- Twelve (12) user defined field names
- Option to save raw data for 3D analysis at a later date

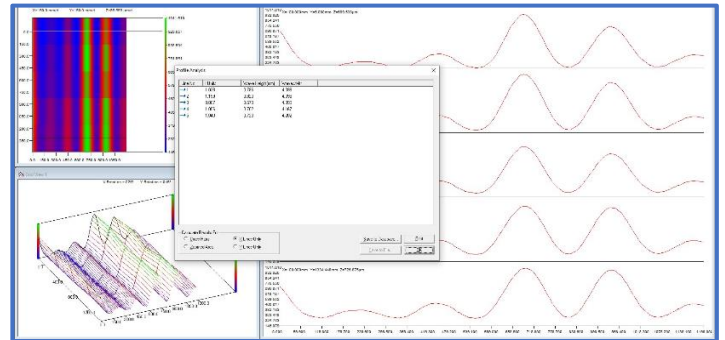


I-unit Master to Verify System Accuracy



FEATURES & BENEFITS

- Accurately quantifies the latent shape of flat samples providing absolute values of wave heights, waves/metre and I-units for each measurement zone
- Provides essential information to allow adjustments to be made to the rolling/levelling process to improve product quality and reduce wastage
- Quick and fully automatic measurement cycle, complete sample measurement and analysis in less than 30 seconds
- Integrated width gauging of sample
- Logging of results into database against coil & production identification numbers
- Profilometry mode allows a much more detailed flatness and surface form measurement and analysis using Scantron's unique Proscan 2000 profilometry software
- Fully integrated light guarding system for maximum safety
- Proven turnkey solution, get the full benefits from day one of installation
- Rugged construction for years of trouble-free operation
- Suitable all types of sheet material where flatness and shape must be accurately quantified.



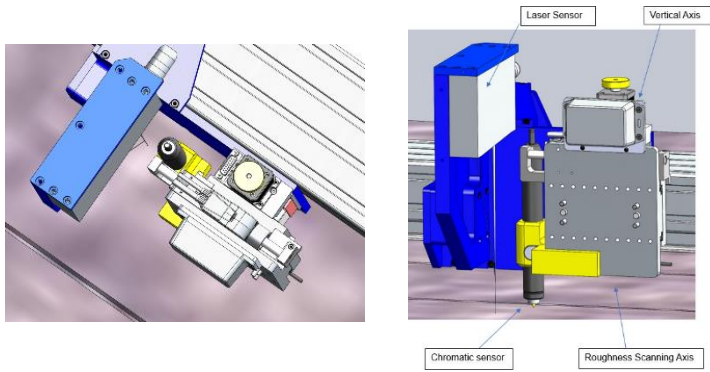
Plan, 2D & 3D Views Available

OPTIONS

Camber – measurement of camber is provided against the integrated straightedge on the Proscan **Magnum**

Edge Waviness – measurements on both edges

Roughness – measurement of the surface roughness with a chromatic sensor



Sheet Curling – measurement take along the centre line of the sheet length

Squareness – diagonal measurement of the sheet

Steepness – as an alternative to flatness measurement using I-units, the steepness or % steepness can be provided

Width – utilising Scantron's edge detection algorithm, Scantron can provide accurate and repeatable width measurements. An industrial thermocouple is mounted to the granite table to monitor ambient temperature and correct for thermal expansion in the material.



EXAMPLE SPECIFICATION

Surface Table	
Dimensions (l×w×h) ¹	3500×2500×860mm
Thickness	400mm
Flatness	Grade 2
Air release grooves	13, across the width
Material	Natural granite
Support Stand	
Construction	Fabricated steel
Levelling adjustment	Yes
X axis	
Travel	3,000mm
Speed	800mm/s
Y axis	
Travel	2,200mm
Speed	<800mm/s
Laser	
Measuring range	70mm
Resolution	1µm
Linearity	7µm
Sample rate	2.5kHz
General	
Scan cycle time ²	Approximately 25s
Total weight	10,100kg

¹ typical size but customizable to almost any dimensions required

² 5 length scans on 2100×1500mm sample

PROSCAN SERIES

FIRST IN NON-CONTACT MEASUREMENT

2200



3D surface measurement

2D/3S



Surface roughness and flatness analysis

3D LINE



Defect detection



In-house design & flexibility

DDMS



Automatic defect detection and measurement system

MAGNUM



Surface and shape measurement system for sheet products

MASTERTRAK



Online thickness and width

Scantron are specialists in non-contact inspection, detection, and measurement systems. Our capabilities include:

- defect detection
- displacement
- flatness
- shape
- surface roughness
- thickness
- diameter
- distance
- length
- straightness
- speed
- width

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