

**Calibration certificate - Test report**

according to EN 10204 – 3.1

**Scope of delivery:**

**Hoffmann TAM Panel, Part Number: PT-Guard  
P&W TAM 146040-2 Approved**

**TAM Type: Full Grit Surface, Grey Colour**

**Distributor:**

[www.fidgeon.co.uk](http://www.fidgeon.co.uk)

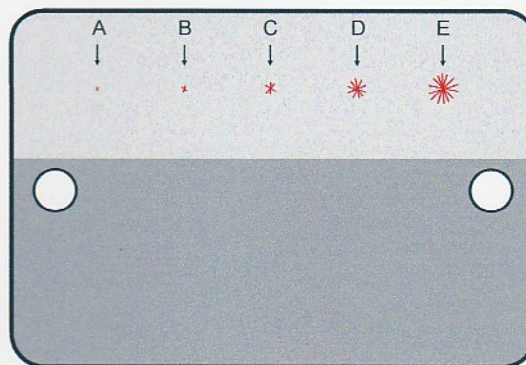
**Serial number:**






2017.05.2203

**Test date:**

22.05.2017

The Hoffmann TAM Panel is made from a stainless steel plate. Half of the test surface is 0.003" hard coated. Five crack centers are evenly spaced in the hard coated strip. The crack centers are circular patterns forming a star.



Crack no.	A	B	C	D	E
Photos: Magnification factor 1 : 2.6					
MEASURED SIZE	0,71 mm	1,36 mm	2,09 mm	3,56 mm	5,12 mm
SPECIFICATION	0,38 - 0,79 mm	1,17 - 1,57 mm	1,91 - 2,36 mm	3,18 - 4,34 mm	4,57 - 6,35 mm
MEASURED SIZE	.028 inches	.054 inches	.082 inches	.140 inches	.202 inches
SPECIFICATION	.015 - .031 inches	.046 - .062 inches	.075 - .093 inches	.125 - .171 inches	.180 - .250 inches

## Full size photo



For the full size photo, we have used the Penetrant Type I, the Method D and the Sensitivity level 4:

### Penetrant:

Magnaflux Zyglo ZL-37 Post Emulsifiable Fluorescent Penetrant

### Remover:

Magnaflux Zyglo ZR-10B (20%) Hydrophilic Remover

### Dry Developer:

Magnaflux Zyglo ZP-4B Dry Powder Developer

For the measurement of diameter, we have used the Penetrant Type I, the Method D and the Sensitivity level 4:

**Penetrant:**

Magnaflux Zyglo ZL-37 Post Emulsifiable Fluorescent Penetrant

**Remover:**

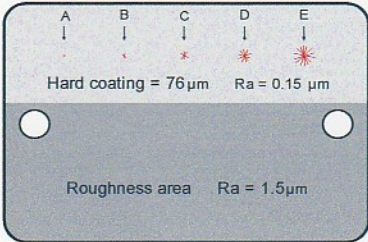
Magnaflux Zyglo ZR-10B (20%) Hydrophilic Remover

**Dry Developer:**

Magnaflux Zyglo ZP-4B Dry Powder Developer

<b>crack depth</b>	<b>0.003" ± .00016"</b>	<b>76 µm ± 4 µm</b>
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The unplated side is grit blasted to Ra = 1,5 roughness for washability / background test.

	<b>Nominal roughness</b>	<b>R<sub>a</sub> = 1,5 µm ± 0,3 µm</b>
	<b>Measured roughness</b>	<b>R<sub>a</sub> = 1,4 µm</b>

**TAM Type: Full Grit Surface, Grey Colour** The Hoffmann TAM Panel is P&W TAM 146040-2 Approved. Herewith we certify, that this Hoffmann TAM Panel has duly been tested and corresponds with the determinations described in Pratt and Whitney specification TAM 146040.

22.05.2017

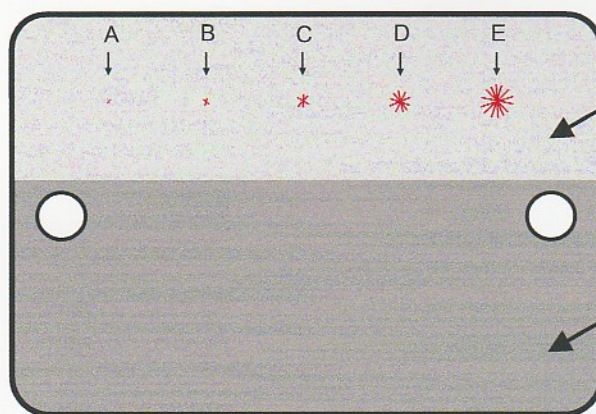
*Hoffmann*  
Z. Hoffmann (Expert)

## Pratt & Whitney TAM Panel

04.04.2017

### TAM Type: Polished

TAM 146040-1 Mirror Chrome Plate



**Ra = 0,15 Micrometer**

Polished Surface

Surface colour = Silver

**Ra = 1,5 Micrometer**

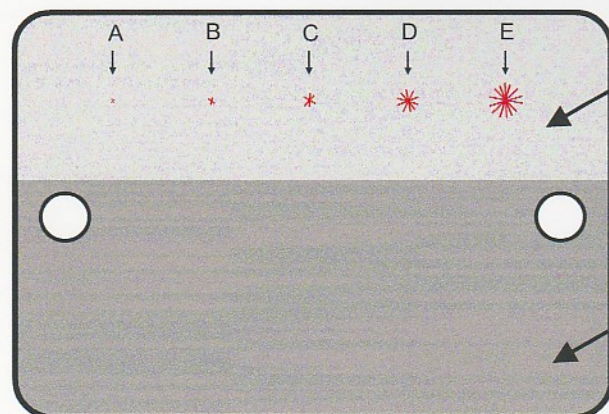
Roughness Area

Grit blasted with Aluminum oxide

Grit size = 120, Pressure = 80 P.S.I.

### TAM Type: Full Grit

TAM 146040 -2 Grit Blasted all over



**Ra = 0,7 Micrometer**

Grit blasted with Aluminum oxide

Grit size = 220, Pressure = 80 P.S.I.

Surface colour = Grey

**Ra = 1,5 Micrometer**

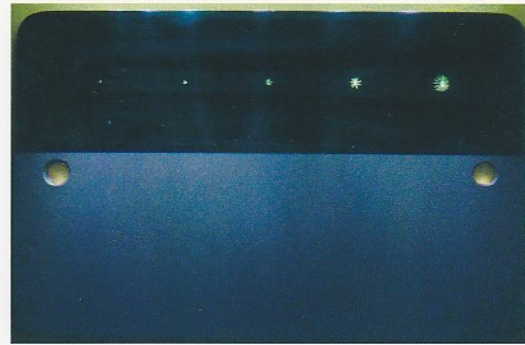
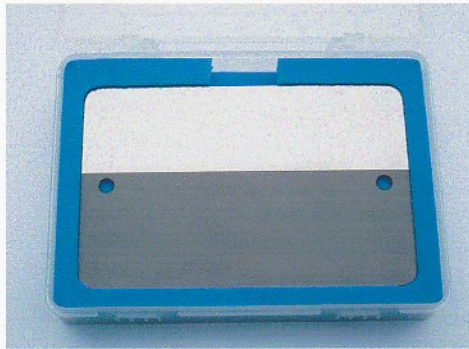
Roughness Area

Grit blasted with Aluminum oxide

Grit size = 120, Pressure = 80 P.S.I.

## Hoffmann TAM Panel

Part Number: PT-Guard



## Product Description - Usage notes

[www.pt-panel.com](http://www.pt-panel.com)

### Intended use of the TAM panel:

The TAM panel serves the user in his PT tests for the functional control of the complete penetrant process.

### Description:

The TAM Panel is a stainless steel plate. Half of the test surface is hard coated. Five crack centers are evenly spaced in the hard coated strip. The crack centers are circular patterns forming a star. The unplated portion of the TAM panel has been grit blasted to a uniform surface roughness ideally suitable for evaluating residual penetrant background characteristics.  $R_a = 2,0 \mu\text{m}$

### Application:

The penetrant to be checked is applied onto the entire surface of the TAM panel by immersing, spraying, or brushing. After the prescribed penetrant dwell time, the excess penetrant is removed. The excess penetrant removal depends on the type of penetrant. Rinsing with water or spraying with water or solvent or immersion dip or other methods. Afterwards, the surface is dried. Finally, the developer is applied. Usually after 5 to 10 minutes, the evaluation is carried out. In the hard coated strip the judgement is based on the number of visible crack centers. The uncoated portion of the panel can be used to check the excess penetrant removal by evaluating the amount of remaining penetrant.

### Cleaning:

For a correct indication, the TAM panel must be free from dirt and residual penetrant from former checks. The TAM panel should carefully be cleaned to remove residual penetrant and developer.

### Storage:

After the panel has been cleaned and dried, it should be stored, submerged in a cleaning solvent like acetone or isopropyl alcohol.

### Recalibration in 12 month intervals:

The star-shaped defects of the TAM panel might change in size and display capability by dirt, corrosion or mechanical stress. Intervals for reconditioning and recalibration: With only occasional use of the TAM panel – 12 month recalibration intervals or any date required by your company. All TAM Panels are serial numbered and supplied with photos and calibration certificate.

(2017.05.22)

# Hoffmann Precision Star TAM Panel



2017.05.22

Spec Sheet

[www.pt-panel.com](http://www.pt-panel.com)

Five crack centers forming a star  
Specification Diameter:  
Permissible tolerances

Crack depth in the hard coat

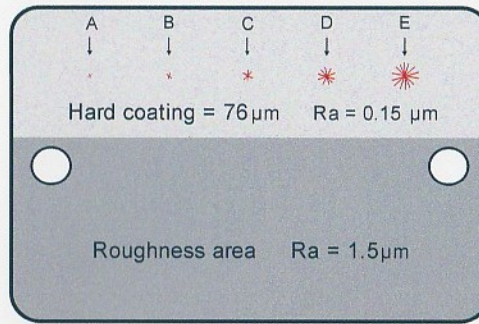
Plate dimensions Tolerance:  $\pm 3\%$

Plate thickness tolerance:  $\pm 10\%$

**Hoffmann TAM Panel** P/N: PT-Guard

P&W TAM 146040-1 Approved

**TAM Type : Polished Surface**



A	B	C	D	E
0,38 - 0,79 mm	1,17-1,57 mm	1,91-2,36 mm	3,18-4,34 mm	4,57-6,35 mm
.015-.031 inches	.046-.062 inches	.075-.093 inches	.125-.171 inches	.180-.250 inches

(.003"  $\pm$  .00016") 76  $\mu$ m  $\pm$  4  $\mu$ m

$R_a = 0,15 \mu\text{m} \pm 0,10 \mu\text{m}$  (Hard coating area)

$R_a = 1,50 \mu\text{m} \pm 0,30 \mu\text{m}$  (Roughness area)

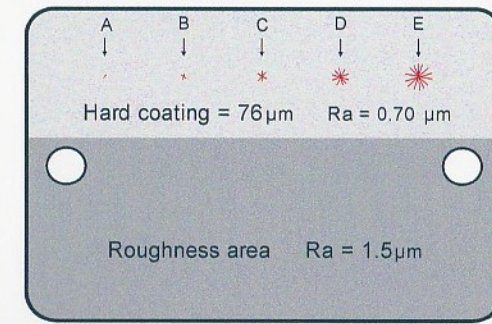
6" x 4" 152,4 mm x 101,6 mm

0.1" 2,5 mm

**Hoffmann TAM Panel** P/N: PT-Guard

P&W TAM 146040-2 Approved

**TAM Type : Full Grit Surface, grey coloured**



A	B	C	D	E
0,38 - 0,79 mm	1,17-1,57 mm	1,91-2,36 mm	3,18-4,34 mm	4,57-6,35 mm
.015-.031 inches	.046-.062 inches	.075-.093 inches	.125-.171 inches	.180-.250 inches

(.003"  $\pm$  .00016") 76  $\mu$ m  $\pm$  4  $\mu$ m

$R_a = 0,70 \mu\text{m} \pm 0,30 \mu\text{m}$  (Hard coating area)

$R_a = 1,50 \mu\text{m} \pm 0,30 \mu\text{m}$  (Roughness area)

6" x 4" 152,4 mm x 101,6 mm

0.1" 2,5 mm