

TEST REPORT No. 333507/9943/CPR

issued by Istituto Giordano in the capacity of notified test laboratory (No. 0407)
pursuant to Regulation (EU) No 305/2011 of the European Parliament and of the Council of 09/03/2011

Place and date of issue: Bellaria-Igea Marina - Italy, 09/05/2016

Customer: PADANA CLEANROOM S.r.l. - Via John Fitzgerald Kennedy, 29 - 26044 LEVATA DI GRON-
TARDO (CR) - Italy

Date test requested: 06/04/2016

Order number and date: 69576, 06/04/2016

Date sample received: 08/04/2016

Test date: 18/04/2016

Purpose of test: static load testing of a suspension component in accordance with clause 5.3 of
standard UNI EN 13964:2014

Test site: Istituto Giordano S.p.A. - Via Erbosa, 72 - 47043 Gatteo (FC) - Italy

Sample origin: sampled and supplied by the Customer

Identification of sample received: No. 2016/0709/B

Sample name*

The test sample is called "ART.4070_T48/ART.4071_T48".

Description of sample*

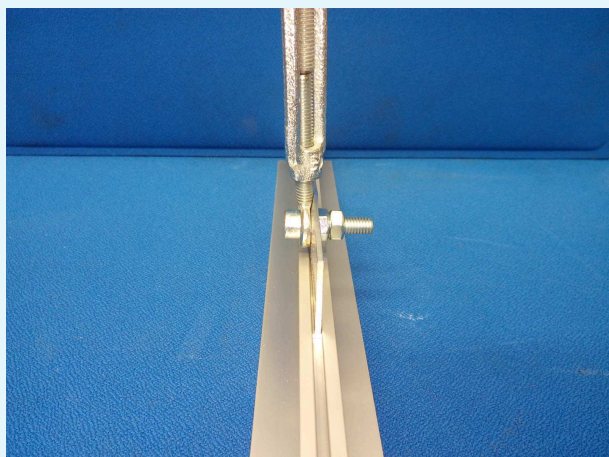
The test sample comprises 10 components of a modular suspended ceiling with inverted T-section grid, width 48 mm, made from silver anodised aluminium.

(*) according to that stated by the Customer.

Comp. AV
Revis. MN

This test report consists of 5 sheets and 1 annex.
This document is the English translation of the test report No. 333507/9943/CPR dated 09/05/2016 issued in Italian; in case of dispute
the only valid version is the Italian one. Date of translation: 17/05/2016.

Sheet
1 of 5



Photos of a component

Manufacturing site*

PADANA CLEANROOM S.r.l. - Via John Fitzgerald Kennedy, 29 - 26044 LEVATA DI GRONTARDO (CR) - Italy.

Normative References

The test was carried out in accordance with the requirements of standard UNI EN 13964:2014 dated 10/04/2014 "Suspended ceilings - Requirements and test methods".

Test apparatus

The following equipment was used to carry out the test:

- Istituto Giordano S.p.A. IG 10000 digital universal testing machine, speed range 0,05-300 mm/min or load rate 9-300 N/s, clear span between support columns of 640 mm and effective travel 2000 mm (apparatus in-house identification code FT161);
- AEP load cell, capacity 25 kN, complete with in-house calibration report (apparatus in-house identification code FT490);
- fixing system simulating sample actual conditions of use.

Test method

The test was carried out in accordance with the requirements of clause 5.3 “Testing of metal suspension and connecting components” of standard UNI EN 13964:2014.

Each pair of hooks underwent a static tensile test at an application rate of 5 mm/min, whilst measuring the respective force and deformation.

The admissible load “admF” was calculated using the following equation:

$$\text{admF} = \frac{F_u^{5\%}}{v}$$

where: admF = admissible load, in N;

$F_u^{5\%}$ = the 5 % fractile, in turn calculated using the following equation:

$$F_u^{5\%} = \overline{F_u} - k_\sigma \cdot s$$

where $\overline{F_u}$ = average value of ultimate load F_u , in N;

k_σ = statistical factor, whose value is 2,57 for 10 test pieces;

s = standard deviation in N;

v = safety factor = 2,5.

Environmental conditions during test

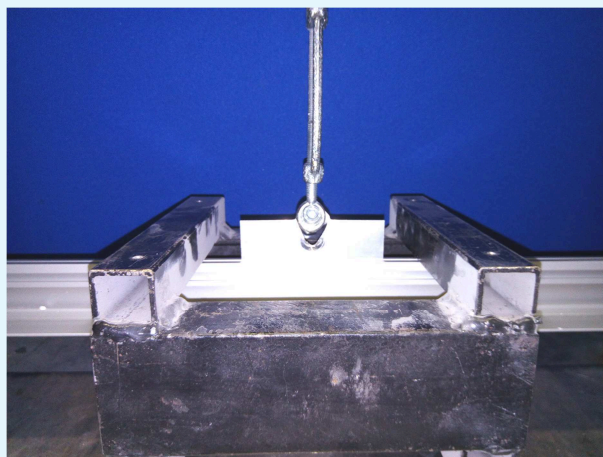
Atmospheric pressure	(1014 ± 10) mbar
Ambient temperature	(23 ± 2) °C
Relative humidity	(50 ± 5) %

Test results

Elemento [No.]	Displacement at failure [mm]	Ultimate load [N]	Result
1	9,74	7663	Ovalisation of screw hole in plate
2	8,86	7710	Ovalisation of screw hole in plate
3	7,77	8699	Ovalisation of screw hole in plate
4	9,70	7262	Ovalisation of screw hole in plate
5	9,20	7874	Ovalisation of screw hole in plate
6	10,45	7121	Ovalisation of screw hole in plate
7	7,15	8396	Ovalisation of screw hole in plate
8	8,15	7989	Ovalisation of screw hole in plate
9	9,86	8289	Ovalisation of screw hole in plate
10	9,03	7832	Ovalisation of screw hole in plate
Average	8,99	7884	//
Standard deviation	1,03	489	//



Load-displacement curve of component 1

**Photo of a component during testing****Example of failure****Findings**

On the basis of the test performed, the results obtained and the provisions of standard UNI EN 13964:2014, the test sample, comprising suspension components called "ART.4070_T48/ART.4071_T48" submitted by the company PADANA CLEANROOM S.r.l. - Via John Fitzgerald Kennedy, 29 - 26044 LEVATA DI GRONTARDO (CR) - Italy, has the performance characteristics specified in the following table.

Admissible load "admF"	2651 N
Average displacement	9,0 mm
Maximum displacement	10,5 mm
Minimum displacement	7,2 mm

The results given refer exclusively to the test specimen itself and are only valid under the same conditions in which testing was carried out.

This test report alone shall not be considered a certificate of conformity.

Test Technician: Ing. Matteo Naviglio

Head of Security and Safety Laboratory: Dott. Andrea Bruschi

CPD Department Technical Manager: Dott. Ing. Giuseppe Persano Adorno

Chief Executive Officer
(Dott. Arch. Sara Lorenza Giordano)





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R.E.A. c/o C.C.I.A.A. (RN) 156766

Registro Imprese di Rimini n. 00 549 540 409

ANNEX "A"
TO TEST REPORT No. 333507/9943/CPR

Place and date of issue: Bellaria-Igea Marina - Italy, 09/05/2016

Customer: PADANA CLEANROOM S.r.l. - Via John Fitzgerald Kennedy, 29 - 26044 LEVATA DI GRON-
TARDO (CR) - Italy

Purpose: sample technical documentation

The following sheets contain Customer-supplied sample technical documentation.



Test Technician: Ing. Matteo Naviglio

Head of Security and Safety Laboratory: Dott. Andrea Bruschi

CPD Department Technical Manager: Dott. Ing. Giuseppe Persano Adorno

Chief Executive Officer
(Dott. Arch. Sara Lorenza Giordano)

Comp. AV
Revis. MN

This annex consist of 8 sheets.

Sheet
1 of 8



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SO 9001 - FM 528217

Title:

Schedule Number:

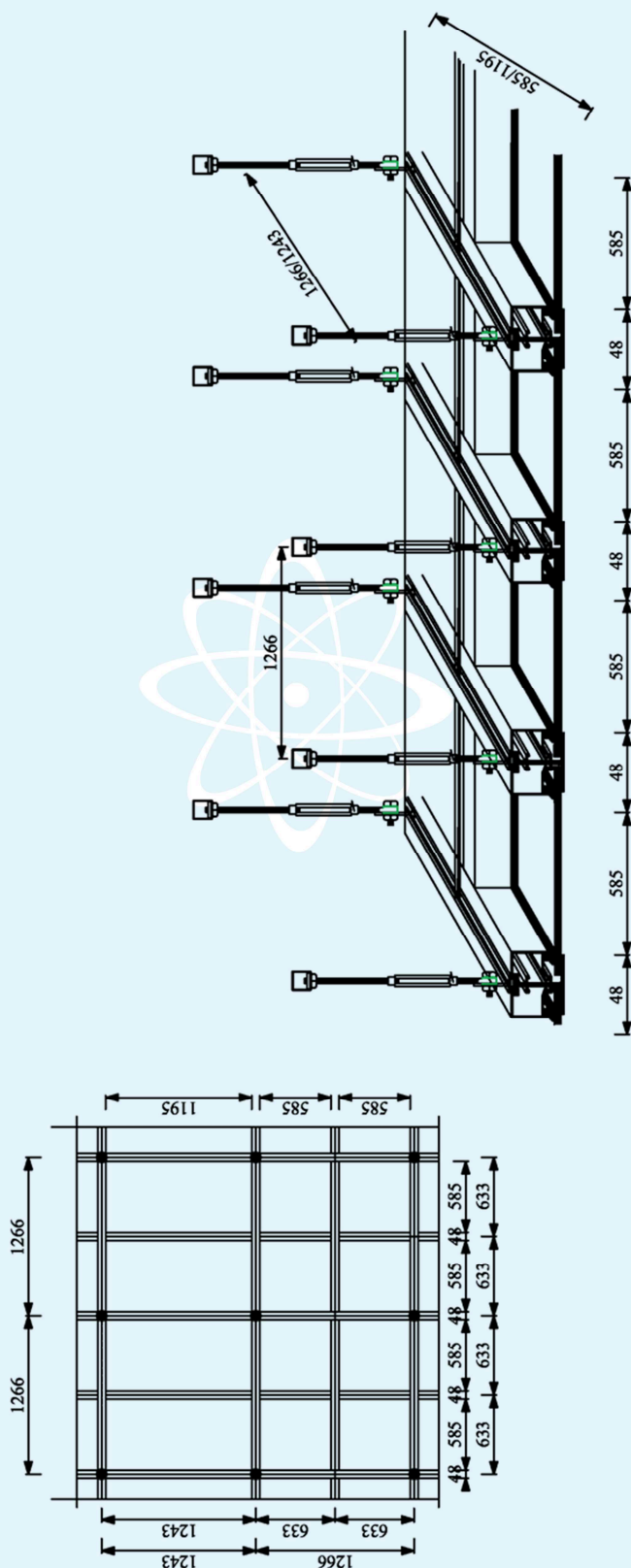
AII. 03

Date **APR. 2016**

SISTEMA PENDINAGGIO

Nº 0

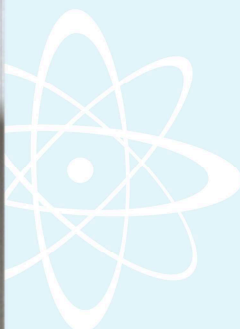
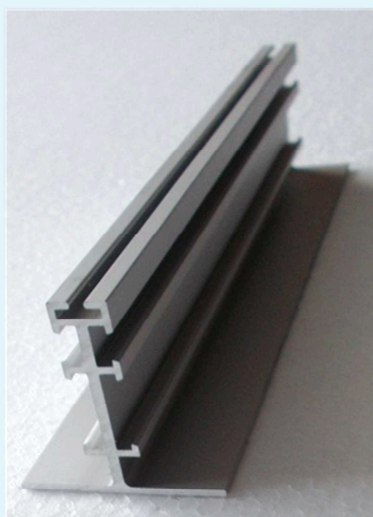
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Allegato 04 – Elenco dei componenti / accessori

1. Art. VB10702 – Profilo in alluminio T48



2. Art. VB10701 – Profilo in alluminio a T per aggancio pendino



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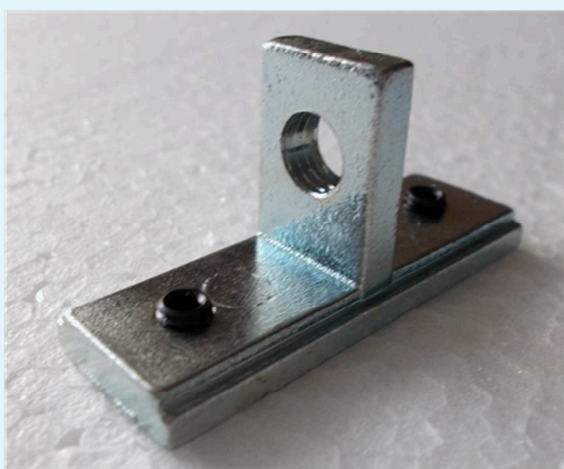
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3. Art. GISOT48 – Giunzione a T in zama per controsoffitto

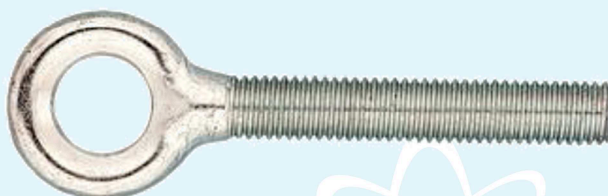


4. Art. PMTEN8 – Tenditore da 8 mm in ferro zincato





5. Art. PMOC8SX – Vite sinistra ad occhiello 8 MA zincato bianco



6. Art. PMBAR8 – Barra filettata 8 MA zincata



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7. Art. D031200 – Vite M8 x 30 zincata UNI 5931 8.8



8. Art. C007114 – Rondella grembialina zincata 8 x 32



9. Art. D037110 – Dado M8 zincato UNI 5588CL8



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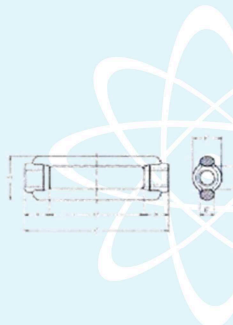


Allegato 05 – Informazioni aggiuntive componenti

1. Art. PMTEN8 – Tenditore da 8 mm in ferro zincato

TURNBUCKLE BODIES DIN 1480
CAGES POUR TENDEURS DIN 1480
SPANNSCHLOSSMUTTERN DIN 1480

Steel Fe 430 B
Acier Fe 430 B
Stahl Fe 430 B

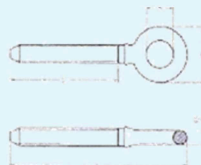


Misure Size Measure Abmessung	A	B	C	E	F	G	H	S.Peso Kg	Peso Peso Gewicht Kg
M 6	12	86	110	6	12	9	19	225	0,060
M 8	15	80	100	8	15	11	23	410	0,080
M 10	18	89	125	9	18	12	30	650	0,150
M 12	21	85	125	11	21	16	34	930	0,190
M 14	23	94	140	12	21,5	18	36	1320	0,250
M 16	27	116	170	14	27	20	42	1770	0,380
M 20	34	132	200	17	34	24	52	2700	0,720
M 22	36	148	220	19	37	28	56	3300	0,920
M 24	39	177	255	20	39	28	60	3920	1,340
M 27	45	165	255	23	45	34	74	4950	1,810
M 30	45	165	255	23	45	34	74	6250	1,850
M 33	45	165	255	23	45	34	74	7580	3,150
M 36	55	165	295	28	55	40	96	9120	3,150
M 39	63	204	330	32	63	50	104	10600	4,600
M 42	63	204	330	32	63	50	104	12500	4,500
M 45	78	199	355	40	80	65	135	14400	9,000
M 48	78	199	355	40	80	65	135	16500	9,900
M 50	78	199	355	40	80	65	135	18100	9,580
M 62	78	199	355	40	80	65	135	19600	9,260
M 66	78	199	355	40	80	65	135	23000	7,260

2. Art. PMOC8SX – Vite sinistra ad occhiello 8 MA zincato bianco

OCCHIELLI PER TENDITORI
TURNBUCKLE EYES
ANNEAUX POUR TENDEURS
ÖSEN FÜR SPANNSCHLÖSSE

Acciaio Fe 430 B
Steel Fe 430 B
Acier Fe 430 B
Stahl Fe 430 B

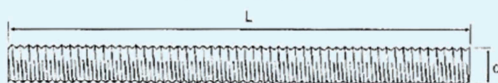


Misure Size Measure Abmessung	A	B	C	D	L	Peso Peso Gewicht Kg
M 5	8	16	20	4	59	0,010
M 6	10	18	50	4	74	0,015
M 8	11	21	52	5	80	0,030
M 10	14	27	60	6,5	97	0,050
M 11	15	30	65	7,5	102	0,090
M 12	17	33	67	8	126	0,030
M 14	18	35	63	8,5	126	0,130
M 16	23	49	97	13	160	0,260
M 18	25	53	112	14	176	0,360
M 20	25	53	116	14	190	0,380
M 22	30	62	120	16	200	0,570
M 24	34	68	126	17	210	0,740
M 27	34	71	150	19,5	226	1,050
M 30	38	77	150	19,5	240	1,100
M 33	39	81	150	21	240	1,300
M 36	48	102	160	27	276	2,050
M 39	49	104	165	28	276	2,380
M 42	55	135	160	40	320	4,800
M 45	55	135	160	40	322	5,050
M 48	55	135	160	40	322	5,200
M 50	55	135	160	40	322	5,870



3. Art. PMBAR8 – Barra filettata 8 MA zincata

DATI TECNICI - TECHNICAL DATA



d	L (mm)	Cod. Zincato bianco cl. 4.8 White zinc ptd. grade 4.8	Cod. Zincato bianco cl. 8.8 White zinc ptd. grade 8.8	Cod. Inox A2 Stainless steel A2
M4	1000	2200004000		
M5	1000	2200005000		
M6	1000	2200006000		2200203000
M8	1000	2200008000		2200203000
M10	1000	2200010000	2200301000	2200201000
M12	1000	2200012000	2200301200	2200201200
M14	1000	2200014000	2200301400	
M16	1000	2200016000	2200301600	2200201600
M18	1000	2200018000	2200301800	
M20	1000	2200020000	2200302000	
M22	1000	2200022000	2200302200	
M24	1000	2200024000	2200302400	
M27	1000	2200027000	2200302700	
M30	1000	2200030000	2200303000	

CARATTERISTICHE PRODOTTO - PRODUCT FEATURES

Tipo Type	Materiale Material	Rivestimento Coating
Barra filettata – acciaio cl. 4.8 Threaded bar – steel grade 4.8	acciaio cl.4.8 min ISO 898-1 steel grade 4.8 min. ISO 898-1	zincatura bianca ≥ 5µm ISO4042 white zinc plated ≥ 5µm ISO4042
Barra filettata – acciaio cl. 8.8 Threaded bar – steel grade 8.8	acciaio cl.8.8 min ISO 898-1 steel grade 8.8 min. ISO 898-1	zincatura bianca ≥ 5µm ISO4042 white zinc plated ≥ 5µm ISO4042
Barra filettata - inox Threaded bar – stainless steel	inox A2-70 ISO 3506-1 stainless steel A2-70 ISO 3506-1	-

CARICHI DI ROTTURA A TRAZIONE secondo norma⁽¹⁾ - TENSILE FAILURE LOADS according to norm⁽¹⁾

Barra filettata Threaded bar		TRAZIONE A ROTTURA ⁽²⁾ / TENSILE FAILURE LOADS ⁽²⁾ N _{A,1} (kN)		
d	A _s , nom [mm ²]	acciaio cl.4.8 min ISO 898-1 ⁽¹⁾ steel grade 4.8 min. ISO 898-1 ⁽¹⁾	acciaio cl.8.8 min ISO 898-1 ⁽¹⁾ steel grade 8.8 min. ISO 898-1 ⁽¹⁾	inox A2-70 ISO 3506-1 ⁽¹⁾ stainless steel A2-70 ISO 3506-1 ⁽¹⁾
M4	8,78	3,7		
M5	14,2	6,0		
M6	20,1	8,4		14,1
M8	36,6	15,4		25,6
M10	58	24,4	46,1	40,6
M12	84,3	35,4	67,4	59,0
M14	115	48,3	92,0	
M16	157	65,9	125	109,9
M18	192	80,6	159	
M20	245	103	203	
M22	303	127	252	
M24	363	148	293	
M27	458	193	381	
M30	561	236	466	

1 kN = 100 kgf

⁽¹⁾ Norma ISO 898-1 per barre acciaio ed ISO 3506-1 per barre inox / Norm ISO 898-1 for steel bar and ISO 3506-1 for stainless steel bar.⁽²⁾ In assenza di regolamentazioni nazionali diverse utilizzare i coefficienti di sicurezza riportati sui pertinenti Eurocodici ER / In the absence of national regulations use safety factors cited in relevant ER Eurocodes.

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