

PRODUCT CONFORMANCE REPORT



Product Class	SupraMIG Copper-Free ISO 14341-A : G424M21 G3Si1 G383C1 G3Si1 AWS A5.18-93 ER70S-6	Item No. Lot/batch Size(s) mm	16SCF1015BRE E1 1029 3316 1.0 X 15 Kg Basket Random
Customer	Tampereen Pirkka Hitsi Oy Hatanpäänvaltie 29 33900 TAMPERE FINLAND	Customer ref. Our reference: Quantity	Heikki 200110 SD630432 2,520.0 KG

Chemical analysis (%)											According to EN10204:2004 2.2
C	Si	Mn	P	S	Cr	Ni	Mo	Cu	V	Al	Ti+Zr
0.070	0.820	1.450	0.01	0.010	0.025	0.030	0.010	0.021	0.001	0.005	0.003

Mechanical tests, all weld metal					According to EN10204:2004 2.2	
Tensile testing			Impact testing			
Rel N/mm2	Rm N/mm2	A5 %	Temp. C	Impact min. Average J		
466	577	30	-40	92		

Additional information	According to EN10204:2004
Other tests	

Remarks

The product identified above has been manufactured, tested and supplied in compliance with a certified ISO 9001:2000 Quality Assurance Programme.

Company
Lincoln Nordic Finland
Registered office:
Yrittäjätie 3
27510 EURA
FINLAND

Printed by
J. Pasanen
Telephone:

Function
Sales Secretary
Fax:

Date
02/05/2010
Cert. No.
98434996



WA TAI INDUSTRIAL CO., LTD.

2, LANE 29, MINCHUAN RD., LUCHU,
 KAOHSIUNG, TAIWAN, R.O.C.
 TEL:07-6967166 FAX:886-7-6961794

INSPECTION CERTIFICATE ACCORDING TO EN 10204 3.1B

LOT NO. :B0811042

Customer :OY PAMETO AB.

Invoice NO. :WT-090115

Order No.:20781

Certificate Date:JAN/14/2009

Item :DIN 931-8.8 HEX ISO FITTING Number of carto : 84 CTN
 H.D.G.

Size :M20-2.5X300

Quantity : 840 PCS

	Test Item	Inspection	Result
1	Thread		
2	Head	W · T 8 · 8	OK
3	Thread Chamfered end	(45 degree)	OK
4	Coating	Min 45um	OK
5	Hardness	HRC 23-34	HRC 26.0-26.9
6	Tensile Strength	84.5 kg/mm2	95.9-100.2 kg/mm2
7	Across Flat of Head	(29.67-30.00)	29.87-29.95
8	Head Height	(12.28-12.72)	12.36-12.42
9	Screw Length	X300 (297.40-302.60)	301.13-301.21
10	Thread Length	125	125.34-125.42
11	Appearance		OK
12	Other		OK

STEEL GRADE: 40 ACR

HEAT NO.:3B678

CHEMISTRY	C%	MN%	P%	S%	SI%	CR%	AL%
SPEC	40	60	30	30	10	20	
	44	90	MAX	MAX	MAX	40	
TEST.	41	77	20	5	5	28	

CHEMICAL COMPOSITION AS PER ATTACHED MILL SHEET.

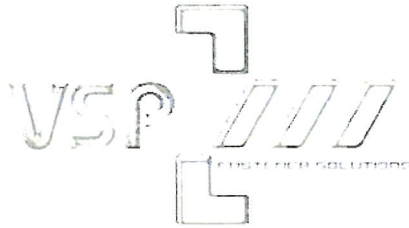
Inspected by

陳 嘉 雯

WA TAI INDUSTRIAL CO.,LTD.



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PAMETO OY AB
KIITORADANTIE 1
01530 VANTAA
- FINLANDIA -

INSPECTION CERTIFICATE EN 10204 - 3.1

CERTIFICATE Nr. 5181

BRUGHERIO 12-12-2008

DESCRIPTION MATERIALS

POS	QUANTITY	ITEM	LOT N°	SHIPPING DOC.	ORDER N°
1	903	DIN 931 8.8 20x340 HDG	75402-08	5579	10551
		ISO FITTING			VILLE-MATTI

CHEMICAL ANALYSIS / ISO 898-1

POS	HEAT	C	Mn	Si	S	P
1	8071281	0,4700	0,6200	0,2700	0,0240	0,0200

MECHANICALS CHARACTERISTICS / ISO 898-1

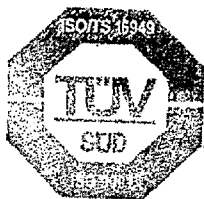
POS	Tensile strenght Rm N/mm ²	Proof Stress Rp0,2 N/mm2	Elongation A%	HRC Hardness
1	918	717	16,03	27 - 28,5

Signature

QUALITY CONTROL

Stellino Daniele

Stellino Daniele



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INSPECTION CERTIFICATE ACCORDING TO EN 10204 3.1B

LOT NO. : B0807123
 Customer : OY PAMETO AB.

Invoice NO. : WT-081023

Order No.: 14119

Certificate Date: OCT/22/2008

Item : DIN 931-8.8 HEX ISO FITTING Number of carto : 418 CTN
 H.D.G.

Size : M24-3.0X90

Quantity : 10,450 PCS

	Test Item	Inspection	Result
1	Thread		
2	Head	W · T 8 · 8	OK
3	Thread Chamfered end	(45 degree)	OK
4	Coating	Min 45um	OK
5	Hardness	HRC 23-34	HRC 29.0-30.5
6	Strength under Wedge	84.5 kg/mm2	92.1-92.9 kg/mm2
7	Across Flat of Head	(35.38-36.00)	35.57-35.65
8	Head Height	(14.78-15.22)	14.90-14.97
9	Screw Length	X90 (89.30-90.70)	89.88-89.97
10	Thread Length	54	54-55
11	Appearance		OK
12	Other		OK

STEEL GRADE: 10B33

HEAT NO.: 3W908

CHEMISTRY	C%	MN%	P%	S%	SI%	CR%	MO%
SPEC	32	70	30	35	15		
	36	100	MAX	MAX	35		
TEST.	34	80	21	9	21		

CHEMICAL COMPOSITION AS PER ATTACHED MILL SHEET.

Inspected by

陳 嘉 雯

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INSPECTION CERTIFICATE ACCORDING TO EN 10204 3.1B

LOT NO. : B0812004
Customer : OY PAMETO AB. Invoice NO. : WT-081231
Order No. : 22296 Certificate Date : DEC/30/2008
Item : DIN 931-8.8 HEX ISO FITTING Number of carto : 218 CTN
H.D.G.
Size : M24-3.0X90 Quantity : 5,450 PCS

	Test Item	Inspection	Result
1	Thread		
2	Head	W : T 8 : 8	OK
3	Thread Chamfered end	(45 degree)	OK
4	Coating	Min 45um	OK
5	Hardness	HRC 23-34	HRC 30.7-31.0
6	Tensile Strength	84.5 kg/mm2	97.9-95.6 kg/mm2
7	Across Flat of Head	(35.38-36.00)	35.65-35.67
8	Head Height	(14.78-15.22)	15.02-15.06
9	Screw Length	X90 (89.30-90.70)	90.10-90.21
10	Thread Length	54	54-55
11	Appearance		OK
12	Other		OK

STEEL GRADE: 10B33

HEAT NO.: 3B912

CHEMISTRY	C%	MN%	P%	S%	SI%	CR%	AL%
TEST.	33	75	12	7	23		23

CHEMICAL COMPOSITION AS PER ATTACHED MILL SHEET.

Inspected by

陳 嘉 雯

WA TAI INDUSTRIAL CO., LTD.



WOLTERS GMBH
Ottilienstraße 19
D-33332 Guetersloh

Abnahmeprüfzeugnis 3.1 - DIN EN 10204 -
Certificate of material tests

Nr./No.: 1792 / 2011

Besteller:
Ordered by:

Bestellung: 71452 V. 12.01.11
Order:

PAMETO OY AB
KIITORADANTIE 1

Prüfbedingungen: DIN 267-4 ; ;

01530 VANTAA
FINNLAND

Beleg-Nr.: 025795 P

Menge Quantity	Artikel Item Muttern	Ihre Artikelnr. Your Item-No.	WE-Nr
8000	M 30 DIN 934 - 8 FEUERVERZINKT		1102-11

Prüfkraft Proof load N	Härte Hardness HV 30	Aufweitung Widening test %	Kennzeichnung Identification mark
Ist: 448.000	255 - 289	6	LE - 8

Charge: 694501

Material: 36Mn4

%	C	Si	Mn	P	S	Cr	Mo	Ni			
Ist:	0,38	0,30	0,87	0,010	0,018						

Die gestellten Anforderungen sind erfüllt.
The results of tests are satisfactory.

33330 Gütersloh, den 09 06 2011
date

Lieferer:
WOLTERS GMBH
Der Abnahmebeauftragte
Works-Inspector

WOLTERS GMBH
Ottilienstraße 19
D-33332 Gütersloh

Abnahmeprüfzeugnis 3.1 - DIN EN 10204 -
Certificate of material tests

Nr./No.: 146 / 2011

Besteller:
Ordered by:

Bestellung:
Order: 71364 V. 11.01.11

PAMETO OY AB
KIITORADANTIE 1

Prüfbedingungen: DIN 267-4 ; ;

01530 VANTAA
FINNLAND

Beleg-Nr.: 003388 P

Menge Quantity	Artikel Item Muttern	Ihre Artikelnr. Your Item-No.	WE-Nr
1200	M 36 DIN 934 - 8 FEUERVERZINKT		1199-10

Prüfkraft Proof load N	Härte Hardness HV 30	Aufweitung Widening test %	Kennzeichnung Identification mark
Ist:	257 - 283	6	LE - [8]

Charge: 34152

Material: C 45

%	C	Si	Mn	P	S	Cr	Mo	Ni			
Ist:	0,43	0,23	0,71	0,015	0,036						

Die gestellten Anforderungen sind erfüllt.
The results of tests are satisfactory.

Lieferer:
WOLTERS GMBH

33330 Gütersloh, den 14.01.2011
date

Der Abnahmebeauftragte
Works-Inspector



Fastech Corp.

NO. 1F, 355-6, Sec. 3, CHUNG SHAN ROAD, KUEI-JEN HSIANG, TAINAN HSIEN, TAIWAN, R.O.C.
TEL: (886-6) 2306611 FAX: (886-6) 2306000

NVLAP LAB CODE 200158-0

INSPECTION CERTIFICATE

(according to EN 10204 3.1.B, DIN 50049 3.1 B)



CUSTOMER OY PAMETO AB
PART NAME HEX NUT
DATE OF MANUFACTURE APR.20.2011 SAMPLE BY NODY WENG
SIZE M12 X 1.75 REPORT NO. Q110429-0081
LOT NO. 166680501 S/C NO. 16668-05
PART NO. QOHEM120ZFPZ19-002P SHIPPING NO. 14037603
CUS.PART NO. 701602812 GRADE CL.8
QUALITY SPEC. LOT CONTROL SAMPLE PLAN DIN 267/5-1986
PACKING NO. 14113801 ORDER NO. 67355
DIMENSION DIN 934-1987 MECHANICAL DIN 267/4-1983
SURFACE TREATMENT HOT DIP GALVANIZED 45um

MATERIAL CHEMICAL ANALYSIS in % SPEC.: SAE 1010 SI-KILL, φ19 HEAT NO. 1VP11													
C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	Al		
x100		x1000			x100					x1000			
8 13	30 60	MAX 40	MAX 50	15 30									
10	53	29	8	21									
According to 002204 Material Certificate From Steel Manufactory													

LOT QTY : 460,800 PCS

DIMENSIONS IN MM

	DIMENSIONS OR SPEC.	SAM.QTY	INSPECTION RESULTS	REMARKS
1	ACROSS FLATS 18.480-19.000	32	18.650- 18.730	
2	ACROSS CORNERS 21.100 MIN.	8	21.270- 21.330	
3	THICKNESS 9.640-10.000	8	9.800- 9.900	
4	HEIGHT(ACROSS FLATS) 7.710 MIN.	32	7.900- 8.000	
5	BEARING DIA. 17.200 MIN.	8	17.900- 18.000	
6	COUNTERSINK DIA. 12.000-13.000	8	12.550- 12.650	
7	PITCH DIA. 10.863-11.063	32	OK	
8	MINOR DIA. 10.106-10.441	32	OK	
9	APPEARANCE	100	OK	
10	SQUARENESS 0.250 MAX.	8	OK	
11	HOLE CONCENTRICITY 0.660 MAX.	8	OK	
12	HARDNESS max.30 HRC	8	OK	
13	PROOF LOAD 67.0 KN	4	TEST 4 PCS ALL OK	
14	PLATED H.D.G. 0.045	4	OK	

THIS LOT IS PRODUCED IN ACCORDANCE WITH ISO/TS 16949 (01 111 033535), CONFORMING TO THE FQA.
PERFORMED BY _____ RESPONSIBLE REPRESENTATIVE SUPERVISOR OF TEST PETER YI

SIGNATURE



Fastech Corp.

NO. 1F, 355-6, Sec. 3, CHUNG SHAN ROAD, KUEI-JEN HSIANG, TAINAN HSIEN, TAIWAN, R.O.C. NVLAP LAB CODE 200158-0
TEL: (886-6) 2306611 FAX: (886-6) 2306000

INSPECTION CERTIFICATE

(according to EN 10204 3.1.B, DIN 50049 3.1 B)



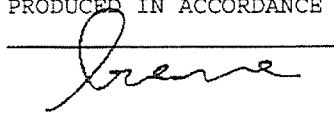
CUSTOMER OY PAMETO AB
PART NAME HEX NUT
DATE OF MANUFACTURE MAR.26.2011 SAMPLE BY NODY WENG
SIZE M16 X 2.0 REPORT NO. Q110411-0052
LOT NO. 166680401 S/C NO. 16668-04
PART NO. Q8HEM160ZFPZ11-002P SHIPPING NO. 14006901
CUS.PART NO. 701602816 GRADE CL.8
QUALITY SPEC. LOT CONTROL SAMPLE PLAN DIN 267/5-1986
PACKING NO. 14013201 ORDER NO. 67355
DIMENSION DIN 934-1987 MECHANICAL DIN 267/4-1983
SURFACE TREATMENT HOT DIP GALVANIZED 45um

MATERIAL CHEMICAL ANALYSIS in % SPEC.: SAE 1022, φ24												HEAT NO. 3KN32		
C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	Al			
x100	x1000			x100					x1000					
18 23	70 100	MAX 30	MAX 50											
20	86	24	8	23							31			
According to 001230 Material Certificate From Steel Manufactory														

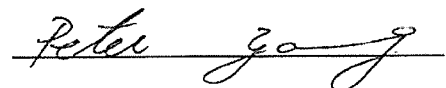
LOT QTY : 547,200 PCS

DIMENSIONS IN MM

	DIMENSIONS OR SPEC.	SAM.QTY	INSPECTION RESULTS	REMARKS
1	ACROSS FLATS 23.480-24.000	32	23.650- 23.730	
2	ACROSS CORNERS 26.750 MIN.	8	27.060- 27.120	
3	THICKNESS 12.300-13.000	8	12.800- 12.900	
4	HEIGHT (ACROSS FLATS) 9.840 MIN.	32	10.700- 10.800	
5	BEARING DIA. 22.200 MIN.	8	23.000- 23.100	
6	COUNTERSINK DIA. 16.000-17.300	8	16.900- 17.000	
7	PITCH DIA. 14.701-14.913	32	OK	
8	MINOR DIA. 13.835-14.210	32	OK	
9	APPEARANCE	100	OK	
10	SQUARENESS 0.340 MAX.	8	OK	
11	HOLE CONCENTRICITY 0.660 MAX.	8	OK	
12	HARDNESS max.30 HRC	8	OK	
13	PROOF LOAD 126.0 KN	4	TEST 4 PCS ALL OK	
14	PLATED H.D.G. 0.045	4	OK	

THIS LOT IS PRODUCED IN ACCORDANCE WITH ISO/TS 16949 (01 111 033535), CONFORMING TO THE FQA.
PERFORMED BY  RESPONSIBLE REPRESENTATIVE SUPERVISOR OF TEST PETER Y.

SIGNATURE



**SAN SHING**

Fastech Corp.

NVLAPNO. 1F, 355-6, Sec. 3, CHUNG SHAN ROAD, KUEI-JEN HSIANG, TAINAN HSIEN, TAIWAN, R.O.C.
TEL: (886-6) 2306611 FAX: (886-6) 2306000

NVLAP LAB CODE 200158-0

**INSPECTION CERTIFICATE**

(according to EN 10204 3.1.B, DIN 50049 3.1 B)

CUSTOMER OY PAMETO AB

PART NAME HEX NUT

DATE OF MANUFACTURE MAR.18.2011 SAMPLE BY LEXUS YANG

SIZE M20 X 2.5 6H REPORT NO. Q110401-0129

LOT NO. 166680201 S/C NO. 16668-02

PART NO. Q8HEM2000FPZ12-002P SHIPPING NO. 13054501

CUS.PART NO. 701602820 GRADE CL.8

QUALITY SPEC. LOT CONTROL SAMPLE PLAN DIN 267/5-1986

PACKING NO. 13104201 ORDER NO. 67355

DIMENSION DIN 934-1987 MECHANICAL DIN 267/4-1983

SURFACE TREATMENT HOT DIP GALVANIZED 45um

MATERIAL CHEMICAL ANALYSIS in % SPEC.: SAE 1022, φ28											HEAT NO. 9YQ48		
C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	Al		
x100		x1000				x100					x1000		
18 23	70 100	MAX 30	MAX 50										
20	88	17	7	22							39		

According to 001152

Material Certificate From Steel Manufactory

LOT QT'Y : 187,200 PCS

DIMENSIONS IN MM

	DIMENSIONS OR SPEC.	SAM.QTY	INSPECTION RESULTS	REMARKS
1	ACROSS FLATS 29.160-30.000	32	29.510- 29.630	
2	ACROSS CORNERS 32.950 MIN.	8	33.700- 33.850	
3	THICKNESS 14.900-16.000	8	15.780- 15.930	
4	HEIGHT (ACROSS FLATS) 11.920 MIN.	32	14.400- 14.510	
5	BEARING DIA. 28.200 MIN.	8	28.700- 28.800	
6	COUNTERSINK DIA. 20.000-21.600	8	21.140- 21.250	
7	PITCH DIA. 18.376-18.600	32	OK	
8	MINOR DIA. 17.294-17.744	32	OK	
9	APPEARANCE	100	OK	
10	SQUARENESS 0.420 MAX.	8	OK	
11	HOLE CONCENTRICITY 1.040 MAX.	8	OK	
12	HARDNESS max.30 HRC	8	OK	
13	PROOF LOAD 196.0 KN	4	TEST 4 PCS ALL OK	
14	PLATED H.D.G. 0.045	4	OK	

THIS LOT IS PRODUCED IN ACCORDANCE WITH ISO/TS 16949 (01 111 033535), CONFORMING TO THE FQA.
PERFORMED BY _____ RESPONSIBLE REPRESENTATIVE SUPERVISOR OF TEST PETER Y.

SIGNATURE

Peter Yang

**SAN SHING**

Fastech Corp.

NVLAP[®]NO. 1F, 355-6, Sec. 3, CHUNG SHAN ROAD, KUEI-JEN HSIANG, TAINAN HSIEN, TAIWAN, R.O.C.
TEL: (886-6) 2306611 FAX: (886-6) 2306000

NVLAP LAB CODE 200158-0

INSPECTION CERTIFICATE

(according to EN 10204 3.1.B, DIN 50049 3.1.B)



CUSTOMER OY PAMETO AB

PART NAME HEX NUT

DATE OF MANUFACTURE MAR.15.2011 SAMPLE BY LEXUS YANG

SIZE M24 X 3.0 6H REPORT NO. Q110321-0059

LOT NO. 166680101 S/C NO. 16668-01

PART NO. QBHEM2400FPZ15-002P SHIPPING NO. 13029202

CUS.PART NO. 701602824 GRADE CL.8

QUALITY SPEC. LOT CONTROL SAMPLE PLAN DIN 267/5-1986

PACKING NO. 13072301 ORDER NO. 67355

DIMENSION DIN 934-1987 MECHANICAL DIN 267/4-1983

SURFACE TREATMENT HOT DIP GALVANIZED 45um

MATERIAL CHEMICAL ANALYSIS in % SPEC.: CSC 10B21, φ32											HEAT NO. 3KM77		
C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	Al	B	
x100		x1000										x10000	
18 23	70 100	MAX 30	MAX 35	MAX 10								MIN ⁵	
20	90	23	2	4							38	16	

According to 001121 Material Certificate From Steel Manufactory

LOT QT'Y : 151,540 PCS

DIMENSIONS IN MM

	DIMENSIONS OR SPEC.	SAM.QTY	INSPECTION RESULTS	REMARKS
1	ACROSS FLATS 35.000-36.000	32	35.850- 35.960	
2	ACROSS CORNERS 39.550 MIN.	8	40.810- 40.920	
3	THICKNESS 17.700-19.000	8	18.680- 18.850	
4	HEIGHT(ACROSS FLATS) 14.160 MIN.	32	16.950- 17.060	
5	BEARING DIA. 33.200 MIN.	8	33.980- 34.100	
6	COUNTERSINK DIA. 24.000-25.900	8	25.720- 25.820	
7	PITCH DIA. 22.051-22.316	32	OK	
8	MINOR DIA. 20.752-21.252	32	OK	
9	APPEARANCE	100	OK	
10	SQUARENESS 0.500 MAX.	8	OK	
11	HOLE CONCENTRICITY 1.240 MAX.	8	OK	
12	HARDNESS max.30 HRC	8	OK	
13	PROOF LOAD 282.0 KN	4	TEST 4 PCS ALL OK	
14	PLATED H.D.G. 0.045	4	OK	

THIS LOT IS PRODUCED IN ACCORDANCE WITH ISO/TS 16949 (01 111 033535), CONFORMING TO THE FQA.
PERFORMED BY *Jenne* RESPONSIBLE REPRESENTATIVE SUPERVISOR OF TEST PETER Y

SIGNATURE

Peter Yang

Adress: Eski Güvercinlik Yolu No. 113 - 06560 Gazi Ankara

Tel: + 90 312 296 26 06

Fax: + 90 312 211 03 18

e-mail: fasteners@mitas.com.tr

Certificate no. : 02010-1842 / 1	Part name : M16x45 Bolt
Customer : PAMETO OY	Standard : DIN 7990
Order no. : 69550	Tolerance class : 6az
Packing list no : PAMETO - 2010 /1842/ 01	Property class : 8.8
Dispatch no. : 417603	Material / heat no. : 30MnB4 / 10117939
Quantity : 300	No. of samples : *

Type of dispatch Change

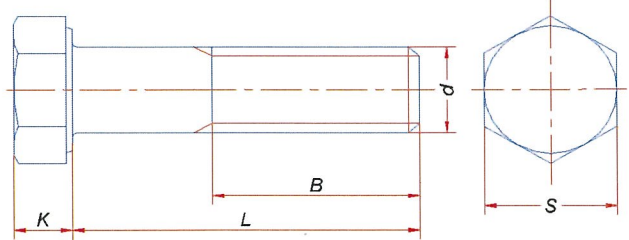
Sample ☐	Pre-launch ☐	Production ☒	Design ☐	Machine ☐	Production ☐	Material ☐	Supplier ☐
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Chemical composition ISO 898-1

% C	% Si	% Mn	% P	% S	% Al	% Cr	% B	% Mo	% Ni	% V	% Ti	Valuation
0,3022	0,0725	1,0429	0,0065	0,0042								✓

Dimensions DIN 7990 (Head & body), ISO 965-4 (threads & major diameter)

Item	Characteristics	Demands	Unit	Results	Valu.
1.1	L	45,00 ^{+1,25}	mm	44,95 - 45,18	✓
1.2	B	24,50 ^{+4,00}	mm	25,30 - 25,80	✓
1.3	S	24,00 ^{-0,84}	mm	23,20 - 23,96	✓
1.4	K	10,00 ^{+0,75}	mm	9,90 - 10,20	✓
1.5	GO - gauge	GO		GO**	✓
1.6	NOT GO - gauge	NOT GO		NOT GO	✓
1.7	d (prior to HDG)	15,38 - 15,66	mm	15,47 - 15,62	✓



Product marking ISO 898-1

2.1	Manufacturer's id.	AS	AS	✓	2.2	Grade	8.8	8.8	✓
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Mechanical properties ISO 898-1

3.1	Tensile strength	min 800	MPa	954 - 1056	✓	3.4	Reduction in area	min 52	%	58 - 59	✓
3.2	Yield strength	min 640	MPa	902 - 999	✓	3.5	Proof load	94,5	kN	94,5	✓
3.3	Elongation	min 12	%	13 - 14	✓	3.6	Hardness	22 - 32	HRC	30 - 31	✓

Coating inspection DIN EN ISO 1461

4.1	Coating thickness	min 55	µm	70 - 95	✓						
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Workmanship ISO 6157-1

5.1	Crack	✓	5.7	Tool marks	✓
5.2	Burst	✓	5.8	Nick or gouge	✓
5.3	Seam	✓	5.9	Axis mismatch	✓
5.4	Fold	✓	5.10	Quality of marking	✓
5.5	Thread lap	✓	5.11	Rust	✓
5.6	Void	✓	5.12	Packaging	✓

Remarks

* Visual controls : 20	Dimensional inspection : 4	Hardness : 2	Coating inspection : 20
Surface discontinuities : 20	Gaging : 10	Tensile & proof test : 2	
Acceptance criteria: For all data sampling (including attribute data), the acceptance level is zero defects.			
** Prior to HDG			

It is hereby confirmed that the bolts dispatched by this certificate have been made to the applicable DIN 7990 requirements.

Revision date :	Controlled by	Approval	Date
Revision no. :	QA Controller	QA Manager	23.12.2010
Additional engineering change	Mehmet ŞİMŞEK	Kemal BAŞAK	

Adress: Eski Güvercinlik Yolu No. 113 - 06560 Gazi Ankara

Tel: + 90 312 296 26 06

Fax: + 90 312 211 03 18

e-mail: fasteners@mitas.com.tr

Certificate no. : 02010-1842 / 1	Part name : M16x45 Bolt
Customer : PAMETO OY	Standard : DIN 7990
Order no. : 69550	Tolerance class : 6az
Packing list no : PAMETO - 2010 /1842/ 01	Property class : 8.8
Dispatch no. : 417603	Material / heat no. : 30MnB4 / 10117939
Quantity : 300	No. of samples : *

Type of dispatch Change

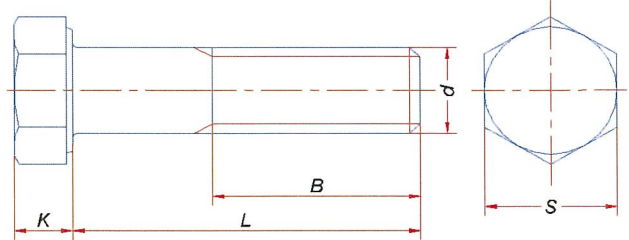
Sample ☐	Pre-launch ☐	Production ☒	Design ☐	Machine ☐	Production ☐	Material ☐	Supplier ☐
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Chemical composition ISO 898-1

% C	% Si	% Mn	% P	% S	% Al	% Cr	% B	% Mo	% Ni	% V	% Ti	Valuation
0,3022	0,0725	1,0429	0,0065	0,0042								✓

Dimensions DIN 7990 (Head & body), ISO 965-4 (threads & major diameter)

Item	Characteristics	Demands	Unit	Results	Valu.
1.1	L	45,00 ^{+1,25}	mm	44,95 - 45,18	✓
1.2	B	24,50 ^{+4,00}	mm	25,30 - 25,80	✓
1.3	S	24,00 ^{-0,84}	mm	23,20 - 23,96	✓
1.4	K	10,00 ^{+0,75}	mm	9,90 - 10,20	✓
1.5	GO - gauge	GO		GO**	✓
1.6	NOT GO - gauge	NOT GO		NOT GO	✓
1.7	d (prior to HDG)	15,38 - 15,66	mm	15,47 - 15,62	✓



Product marking ISO 898-1

2.1	Manufacturer's id.	AS	AS	✓	2.2	Grade	8.8	8.8	✓
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Mechanical properties ISO 898-1

3.1	Tensile strength	min 800	MPa	954 - 1056	✓	3.4	Reduction in area	min 52	%	58 - 59	✓
3.2	Yield strength	min 640	MPa	902 - 999	✓	3.5	Proof load	94,5	kN	94,5	✓
3.3	Elongation	min 12	%	13 - 14	✓	3.6	Hardness	22 - 32	HRC	30 - 31	✓

Coating inspection DIN EN ISO 1461

4.1	Coating thickness	min 55	µm	70 - 95	✓						
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Workmanship ISO 6157-1

5.1	Crack	✓	5.7	Tool marks	✓
5.2	Burst	✓	5.8	Nick or gouge	✓
5.3	Seam	✓	5.9	Axis mismatch	✓
5.4	Fold	✓	5.10	Quality of marking	✓
5.5	Thread lap	✓	5.11	Rust	✓
5.6	Void	✓	5.12	Packaging	✓

Remarks

* Visual controls : 20	Dimensional inspection : 4	Hardness : 2	Coating inspection : 20
Surface discontinuities : 20	Gaging : 10	Tensile & proof test : 2	
Acceptance criteria: For all data sampling (including attribute data), the acceptance level is zero defects.			
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Revision date :	Controlled by	Approval	Date
Revision no. :	QA Controller	QA Manager	23.12.2010
Additional engineering change	Mehmet ŞİMŞEK	Kemal BAŞAK	

DEEP IN THE STREETS

MATERIAL TEST CERTIFICATE

DORAHN-IVITT VILLAGE IASPAION CT ROAD DORAHN-141421

LUDHIANA-141010, (INDIA)

TEL: 91-1628-324822

FAK:91-1628-245300



CALCINO OV AD OV DANETO AS RITO#ADANTIE 101530

VANTAA, FINLAND

B.O.No.

4295

Certificate No.

09/1239

Invoice

09.09.2009

Date of Issue

09.09.2009

Description	Amount	Date	Initials
1. ...	...	...	...
2. ...	...	...	...
3. ...	...	...	...
4. ...	...	...	...
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16. ...	...	...	...
17. ...	...	...	...

BOLT M20X45, M20X50 DIN 7990 FINISH- HDG

Certification in Accordance with EN-10204, 3.1. level.



ISO-9001:2000
ISO/TS-16949:2002

[illegible]