



**MATERIALS TRACEABILITY CERTIFICATE**  
(Certificato di tracciabilità dei materiali)

Certificate No.:

**MTC 800302-001-02**

CUSTOMER: <b>DELTA GMBH</b>		PROJECT: <b>BOC</b>			PURCHASE ORDER NO.: <b>DELTA-PETROLVALVES-2024-PO-200</b>	
INTERNAL JOB ORDERNO. <b>800302</b>	POS. <b>001</b>	Q. TY <b>1</b>	DN <b>1"</b>	CLASS <b>ASME 300</b>	ENDS <b>RF</b>	
VALVE DESCRIPTION: <b>G-STREAM</b>	OPERATOR <b>ACTUATED VALVE</b>	TAG No. <b>LCV-RU0001B-01</b>		VALVE SERIAL NUMBER <b>800302-001-02</b>		

**MATERIAL TEST CERTIFICATE ACCORDING TO:**

EN 10204 – TYPE 2.1 <input type="checkbox"/>	EN 10204 – TYPE 2.2 <input type="checkbox"/>	EN 10204 – TYPE 3.1 <input checked="" type="checkbox"/>	EN 10204 – TYPE 3.2 <input type="checkbox"/>
---	---	--	---

**INDEX OF MATERIAL CERTIFICATES**

PART NAME	HEAT NUMBER	MATERIAL	SUPPLIER	CERTIFICATE No.	Addition al requirements
BODY	V406	A352 LCB/LCC	SHAH PRECAST	V0860	-
BONNET	21E04568	A350 LF2	H.J. METALCRAFT	TC/VSI/048/2024-25	-
BONNET FLANGE	Y363	A352 LCB/LCC	H.J. METALCRAFT	TC/VSI/62C-M/2019-20	-
SEAT	A10908	A479 316/316L + STELLITE 6	IMS	464134	-
PLUG/STEM - ASSEMBLY	AB3581	A479 316/316L + STELLITE 6	IMS	441226	-
BOLT	BF1617	A320 L7M	COLOMBO MAGNO	883	-
NUT	67777	A194 GR.7ML	COLOMBO MAGNO	4742	-
					-

Notes:

We declare that the materials are in fully compliance with Chemical compositions, Mechanical properties, Heat treatments with material specification as Customer Order

VSI CONTROLS INSPECTOR	CUSTOMER INSPECTOR	THIRD PARTY INSPECTION AGENCY (TPI)
DATE: 07/01/2025 SIGN: 	DATE: SIGN:	DATE: SIGN:



# SHAH PRECAST PVT.LTD.(UNIT - I)

E-35, MIDC KUPWAD BLOCK,,MAHARASHTRA (INDIA),SANGLI - 416436

## INSPECTION CERTIFICATE

acc./nach (EN 764-5) asper EN 10204 - 3.1

VSI Controls S.r.l  
Viale Luigi Majno, 17/A,  
20122 Milano - MI  
ITALY -

T.C No V0860 T.C Date 30/06/2019  
Heat No V406 Date of Pouring 12/05/2019  
Grade LCB/LCC  
Specification SA-352/SA-352M - Edition 2013

FOUNDRY LOGO : SP

MELT PRACTICE : BASIC INDUCTION FURNACE

### CHEMICAL ANALYSIS

	C.%	Mn.%	Si.%	S.%	P.%	Cr.%	Ni.%	Mo.%	V.%	Cu.%	Ni+Cr+Mo+V+Cu.%
MIN											
MAX	0.250	1.000	0.600	0.045	0.040	0.500	0.500	0.200	0.030	0.300	1.000
Achieved	0.195	0.783	0.457	0.011	0.021	0.200	0.072	0.022	0.005	0.024	0.323

### MECHANICAL PROPERTIES

	Y.S(0.2%)		T.S		%Elong. G.L. (62.5 mm)	% Red in Area	Charpy V Notch Impact Test At -46 °C			Hardness	Bend Test
	MPa / Kgf/mm <sup>2</sup>	MPa / Kgf/mm <sup>2</sup>	MPa / Kgf/mm <sup>2</sup>	MPa / Kgf/mm <sup>2</sup>		Specimen Size = 10X10X55 mm	Avg	HBW			
MIN	275.00	28.03	485.00	49.44	24.00	35.00	[ Min. 27 J IND. ]			27 J	
MAX			620.00	63.20			I	II	III		237.00
Achieved	381.76	38.92	542.04	55.25	27.46	62.86	44.00	48.00	40.00	44.00	154 - 168

Heat Treatment : (1) HEATED AT 920°C SOAKED FOR 4 HRS & WATER QUENCHED,  
(2) TEMPERED AT 660°C SOAKED FOR 4 HRS & AIR COOLED.

### DETAILS OF CASTINGS POURED

P.O REFERENCE	PO SI No	O.A NO	ITEM DESCRIPTION	DRAWING NUMBER	Qty (Nos)
A19-00410	5	19040103	BODY 1" # 300 GLS FE	1501895 REV.0	10
A19-00410	10	19040103	BODY 1.1/2" # 300 GLS	1500167 REV.0	4

- > VISUAL INSPECTION AS PER MSS SP 55 -2011 EXAMPLE "a"
- > THE ABOVE CASTINGS ARE FREE FROM RADIOACTIVE CONTAMINATION
- > ALSO CONFIRMS NACE STD. MR 0175/ISO 15156 - 2015
- > %ELONGATION BY A5 METHOD
- > MARKING DETAILS-->SIZE,CLASS, PART NO./DRAWING NO.,MATERIAL GRADE,H.NO,SP
- > ALSO CONFIRMS TO PMA\_003\_00 REV-0



200664

For, SHAH PRECAST PVT.LTD.(UNIT - I)

  
S.C.Potdar

We confirm that the material was manufactured, sampled, tested & inspected in accordance with above material specification & was found to meet the requirements & also compliance to the purchase order.

Manufacturer's Authorized Inspector



# SHAH PRECAST PVT.LTD.(UNIT - I)

E-35, MIDC KUPWAD BLOCK,, SANGLI - 416436



PHONE : 91-233-2645611, 2643932 FAX : 91-233-2645612 E-mail : info@shahprecast.com

## MAGNETIC PARTICLE TESTING REPORT

Customer : VSI Controls S.r.l Viale Luigi Majno, 17/A, 20122 Milano - MI	Report No / Date : 00764 / 31/07/2019 D.C No / Date : EXV128 / 31/07/2019 P.O No / Date : A19-00410 / 18/04/2019
STAGE OF TESTING : AFTER HEAT TREATMENT SURFACE CONDITION : AS CAST SHOT BLASTING PROCEDURE REF : ASME SECTION V, ARTICLE 7 & ASTM E 709 SPPL PROC. Ref : QCA-QP-93 Rev 02 METHOD OF TESTING : WET FLUORESCENT METHOD TYPE OF TESTING : PROD METHOD ACCEPT. : ASME B 16.34 APPENDIX II STD/NORMS	PROD SPACING : 4 TO 6 INCH MAGNETISING CURRENT : 400 TO 750 AMP TYPE OF CURRENT USED : HWDC Lighting Equipment : ULTRAVOILET BULB ( HYMECH ENGINEERS) TYPE OF MAGNETIZATION : CIRCULAR PROD METHOD DEMAGNETIZATION : DONE Extent of Examination : ALL EXTERNAL & ACCESSIBLE INTERNAL AREAS Light Intensity : 1100 To 1150 $\mu$ W/cm <sup>2</sup> Date Of Exam : 31-JUL-19

Sr.	Description / Drawing No	Heat No / Max Thick (mm)	Grade	Qty	MP No.	Result	Remark
1	BODY 1.1/2" # 300 GLS 1500167 REV.0	V406	LCB/LCC	4	MP1186, MP1187, MP1188, MP1189	MPI OK	ACCEPTED



TESTED BY  NDE LEVEL - I MPT (R.M.BHARATI)	Witness / Review By	External Inspector	APPROVED BY  SATISH GAIKWAD ASNT LEVEL III Cert No. - 224020 RT, UT, MT ASNT LEVEL III (RT,UT,MT)
---	---------------------	--------------------	--





# AMBHE FERRO METAL PROCESSORS PRIVATE LIMITED

AN ISO 9001 CERTIFIED COMPANY

Factory : D-12, M.I.D.C., Murbad, Dist.Thane - 421 401  
Admin.Off.: A-204, Zest Business Space, 2nd Floor, 17, M.G. Road, Ghatkopar (E), Mumbai - 400077  
Registered Off.: 5, Steelyard House, S.T. Road, Iron Market, Mumbai - 400 009  
Phone : +91 22 25080845 CIN No : U27100MH1987PTC043960  
Email : sales@ambhe.com Website : http://www.ambhe.com



## TEST CERTIFICATE FOR HOT ROLLED BARS FOR PRODUCTION OF BRIGHT BARS AND MACHINED PARTS FOR ENGINEERING APPLICATIONS

M/S :	Product : Carbon Steel Round Bars	Grade : LF 2
	Tc No : AFM/21-22/1246	Date : 15-Mar-2022
	Inv No : 101245/101012	Date : 15-Mar-2022
	Truck No : MH50N2346	Order No :

It is certified that the material described below fully conforms to IS: 7283 - 1992. Chemical Composition and Mechanical properties of the Product, as tested in accordance with the scheme of Testing and Inspection contained in the BIS Certification Marks Licence No. CM/ L - 7700034211 are as indicated below against each order No. etc.  
( PLEASE REFER TO IS : 7283 - 1992 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

Sr.No	CAST NO.	STEEL GRADE	SIZE	C	Mn	S	P	Si	Cr	Ni	V	Al	QUANTITY (M.T)
1	159306	LF 2	48MM	0.20	1.18	0.014	0.021	0.22	0.010	--	0.050	0.034	2.615
2	166031	LF 2	32MM	0.18	1.25	0.009	0.023	0.29	0.017	--	0.058	0.024	2.510
3	21E04568	LF 2	70MM	0.18	1.21	0.013	0.027	0.21	0.011	--	0.040	0.021	9.980

Sr.No	CAST NO.	JOMINY HARDENABILITY ( In Hrc ) ( If Required )						METALLURGICAL PROPERTIES INCLUSION RATING ( If Required )								DECARBURIZATION (%) ( If Required )	GRAIN SIZE NO. ( If Required )
		UNIT	1.5	5	20	30	40	A		B		C		D			
								Thin	Thick	Thin	Thick	Thin	Thick	Thin	Thick		
1	159306	--	--	--	--	--	--	--	--	--	--	--	--	--	0.14	7	
2	166031	--	--	--	--	--	--	--	--	--	--	--	--	--	0.14	7	
3	21E04568	--	--	--	--	--	--	--	--	--	--	--	--	--	0.14	7	

### OTHER TESTS AND REMARKS :

SIZE :48MM HEAT NO:159306 NO OF PCS:32 COLOR CODE:GREEN BASE YELLOW STRIP MPI: OK UT: OK  
SIZE :32MM HEAT NO:166031 NO OF PCS:69 COLOR CODE:GREEN BASE YELLOW STRIP MPI: OK UT: OK  
SIZE :70MM HEAT NO:21E04568 NO OF PCS:78 COLOR CODE: GREEN BASE YELLOW STRIP MPI: OK UT: OK



For : AMBHE FERRO METAL PROCESSORS



(AUTHORIZED SIGNATORY)

"THE MATERIAL SUPPLIED CONFORMS TO STANDARD ROLLING TOLERANCES"

"For BIS Certification details see BIS Website www.bis.org.in"

# H.J. METALCRAFT PRIVATE LIMITED

COC/VSI/J10560/01/2024-25

## VISUAL INSPECTION REPORT

CUSTOMER NAME:- VSI CONTROLS - SEDE OPERATIVA

PO. NO. X24-00681 LINE NO: 5

DATE:- 02-09-2024

PRODUCT DESCRIPTION	DRG NO	MATERIAL	Qty.(Nos.)
Cappello GLS DN 0.5"-0.75"-1" Cl. 150/600 Spud 52 st. ø14,6	1500135-00	ASTM A350 LF2 CL.1 MDS STD	20

PARAMETERS	TOTAL QUANTITY	ACCEPTED	REJECTED	REMARKS
FREE FROM NICKS, SCRATCHES, BURRS	20	20	NIL	OK
VISIBLE SURFACE CONDITION	20	20	NIL	OK
STAMPING / MARKING	20	20	NIL	OK
NO CORROSION	20	20	NIL	OK
NO OTHER VISUAL DEFECT	20	20	NIL	OK

For, H. J. METALCRAFT PVT LTD



CHECKED BY: QUALITY INCHARGE



# H. J. METALCRAFT PVT LTD

D-15/16, C-16/17, Bharat Small Ind. Estate,  
B/h. Gujarat Offset, Stationoad,  
Vatva, AHMEDABAD 382440 (INDIA)  
E mail : hjmetalcraft@gmail.com

## INSPECTION CERTIFICATE AS PER EN 10204 3.1

Page: 1 / 1

Consignee: <b>VSI CONTROLS</b> sede legale in milano, Via Antonio Locatelli n.5 Capitale sociale Euro 100.000,00 i.v. P.I.V.A. n. 10014490644	X	Number	Date
	T.C.	TC/VSI/62C-M/2019-20	26-Sep-2019
	Invoice	62C/2019-20	27-Sep-2019
	P.O.	A19-00663	24-Jun-2019
	OA. NO.	----	----
Specification		ASTM A352 Gr. LCB / LCC, PMA_004_00	

Sr.No.	Item	Quantity	Heat No
1	BONNET FLANGE GLS DN, 0.5"-0.75"-1", CL-150/600	41	Y363
Total		41	

Chemical/Mech Properties	Require Prop. (ASTM A352 LCB)	Require Prop. (ASTM A352 LCC)	Heat No.			
			Y363			
Carbon	0.300 max	0.250 max	0.132			
Manganese	1.00 max	1.200 max	0.762			
Silicon	0.600 max	0.600 max	0.218			
Sulphur	0.035 max	0.045 max	0.007			
Phosphorous	0.035 max	0.040 max	0.020			
Chromium	0.50 max	0.500 max	0.247			
Nickel	0.50 max	0.500 max	0.048			
Molybdenum	0.20 max	0.200 max	0.010			
Copper	0.300 max	0.300 max	0.014			
Vanadium	0.030 max	0.030 max	0.0005			
Tensile Strength MPa	450-620	485-655	542.00			
Yield Strength MPa	240 min.	275 min.	336.00			
Elongation % Min	24 % min.	22 % min.	28.48			
Red. of Area % Min	35 % min.	35 % min.	70.12			

Charpy 'V' Notch Impact Test At -46 Deg C [ Spec Size 10x10x55 mm [Specified Value - Avg >= 27 J, Min 27 J individual]

Test Result	Sample 1	Sample 2	Sample 3	Average
	34 J	42 J	32 J	36 J
Report No.	AI-7286/19			

Heat Treatment : Castings heated to 920° C. Soaking period 2.5 hours and water Quenched.  
Tempered at 680° C, soaking period 4.0 hours

Remarks : We certify that the above materials are conform to ASTM A352 Gr. LCB / LCC, PMA\_004\_00

Approval acc. To AD 2000 - Merkblatt W0 and certified acc. To PED (2014/68/EU) Annexure - 1 Sec. 4.3 by certification Body For Pressure Equipment of TUV NORD Systems (Notified Body Reg. No. :-0045)

Remarks : For each reduction of 0.01 % below the specified maximum carbon content , an increase of 0.04% manganese above the specified maximum will be permitted up to 1.28 % for LCB.

Casting Process : Melting by Induction Furnace, (Investment Casting)

Marking Details : Size, Class, Heat No, Material Grade, Foundry Logo

Visual Inspection : According to MSS-SP-55 - 2011 Example "a" Type (II TO XII)

For H. J. METALCRAFT PVT. LTD

Manager (Quality Assurance)



200289

Work Inspector

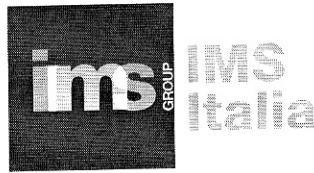
Pankaj Patel





# CERTIFICATO DI ANALISI

Numero del certificato 464134  
Data 08/04/24



IMS SPA  
Via Alessandro Polini, 450  
20862 ARCORE (MB)  
ITALIA

**Cliente** PMS - PARTI MECCANICHE SPECIALI  
SRL  
**Vostro ordine N** 81-82/2024  
**N° Cliente** 1012844  
**Bolla di consegna** 528259/2  
**Data della bolla di consegna** 08/04/24  
**Numero di DDT** 158285

PMS - PARTI MECCANICHE SPECIAL  
VIA REDIPUGLIA 15/17  
21055 GORLA MINORE  
ITALIA

## Prodotto

Barra tonda pelata AISI 316L Solubilizzato 50mm \*\*\* BARRA TG A META'  
**Colata** A10908 - **Lotto** AG202209291114 - **Peso** 74 kg - **Quantità** 1 P

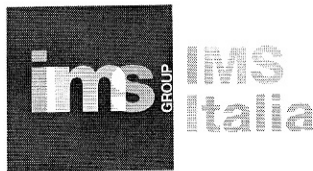
209738



# CERTIFICATO DI ANALISI

Numero del certificato 464134

Data 08/04/24



IMS SPA  
Via Alessandro Polini, 450  
20862 ARCORE (MB)  
ITALIA

## Composizione chimica

C	Mn	Si	P	S	Cr	Ni	Mo	Cu	Al	N	Sn	Ti	V	Nb	W	Co
0.024	1.34	0.46	0.039	0.025	16.89	10.25	2.07	0.27	0.064	0.032	0.0097	0.005	0.05	0.012	0.07	0.14
<b>B</b>												<b>CEQ</b>				
0.0021												4.751				

## Specifiche del materiale 1

HB	RM	RE	A	Z
163	MPA	MPA	60 %	80 %
	567	304-344		

## Prove di resilienza

KCV					
J					
Direzione	Temperatura	Prova 1	Prova 2	Prova 3	Media
L	20 C	202	202	202	202

## Microinclusioni

ASTM E45					
A		B		D	
F	G	F	G	F	G
2	2	2	1	1	1

## Informazioni complementarie

Controllo antimescolanza / Antimix control: conforme  
 Controllo superficiale / Surface control: conforme  
 Controllo ultrasuoni / Ultrasonic test: EN 10308, type 1a, class 3:OK  
 Durezza su prodotto allo stato di fornitura / Hardness on product.  
 Grano austenitico / Austenitic grain: 5 ASTM E 112  
 Rapporto di Riduzione / Reduction Ratio (R/R): 129.7 :1  
 Radioattività controllata / Radioactivity free: OK  
 Norma di riferimento / Reference standard: UNI EN 10088-3  
 Conforme a / According to: 3.1



209738

IMS S.p.A. - Sede e direzione via Alessandro Polini, 450 - 20862 Arcore (MB) - [www.ims.it](http://www.ims.it)

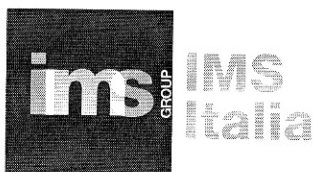
Iscr. Reg. Imp. Milano, Monza e Brianza, Lodi - P.I. IT 02387540962 - C.F. 00485910012 - REA: MB 264817

Cap. Soc. € 40.700.000,00 i.v. - Società sottoposta a direzione e coordinamento della JACQUET Metals S.A. (Francia)

# CERTIFICATO DI ANALISI

Numero del certificato 464134

Data 08/04/24



IMS SPA  
Via Alessandro Polini, 450  
20862 ARCORE (MB)  
ITALIA

Si dichiara che il prodotto sopra descritto è conforme alle prescrizioni dell'ordine.

Il presente certificato IMS è copia conforme all'originale del produttore custodito presso i nostri archivi.



**IMS S.p.A. - Sede e direzione** via Alessandro Polini, 450 - 20862 Arcore (MB) - [www.ims.it](http://www.ims.it)

**Iscr. Reg. Imp.** Milano, Monza e Brianza, Lodi - **P.I.** IT 02387540962 - **C.F.** 00485910012 - **REA:** MB 264817

**Cap. Soc.** € 40.700.000,00 i.v. - Società sottoposta a direzione e coordinamento della JACQUET Metals S.A. (Francia)

# Inspection Certificate 3.1



Product **WT-6 5.0 x 2000mm BCR**  
Lot/Batch **18933712**  
Class **AWS A5.21 ERCOCR-A**

Customer Ref **OA24-197**  
Our Reference **0820206962 - 25.04.2024**  
Sales Order **48948506**  
Quantity **1617.5 KG**  
Customer **SOGES s.p.a.**  
**Via alla stazione di S. Quirico7**  
**Genova 16163**  
**Italy**

## Chemical analysis (%)

According to BS EN10204 3.1

C	Si	Mn	Cr	Ni	Mo	Co	W	Fe	TOE
1.21	1.27	0.34	28.72	2.14	0.43	59.27	4.62	1.95	<0.01

## Mechanical tests, all weld metal

## Hardness

According to BS EN10204 3.1

HRc  
46

## Remarks



**A.F. SALDATURE**  
di **FLAVIO FERRETTO s.r.l.**

Via Milano, 8  
20816 CERIANO LASCETTO (MB)  
Tel. 02/99692214

Cell. 334 334 334 334 334 334 334 334 334 334

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

Company

Issued By

Printed

Cert. No.

*AL Tgl*

By  
Date

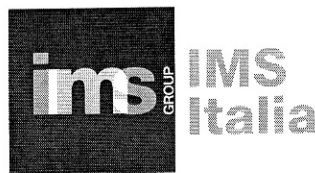
Keiran Powell  
25-04-2024

**02343209**

# CERTIFICATO DI ANALISI

Numero del certificato 441226

Data 08/02/24



IMS SPA  
Via Alessandro Polini, 450  
20862 ARCORE (MB)  
ITALIA

**Cliente** PMS - PARTI MECCANICHE SPECIALI  
**SRL**

VIA MELORIA 4 20124 MILANO

PMS - PARTI MECCANICHE SPECIAL  
VIA REDIPUGLIA 15/17  
21055 GORLA MINORE  
ITALIA

**Vostro ordine N** 10+34  
**N° Cliente** 1012844  
**Bolla di consegna** 518840/2  
**Data della bolla di consegna** 08/02/24  
**Numero di DDT** 150941

## Prodotto

Barra tonda pelata AISI 316L Solub. 30mm\*\*\*\*BARRA TG A META\*\*\*\*\* 6040 mm

**Colata** AB3581 - **Lotto** AG2310191012BIS - **Peso** 35 kg - **Quantità** 1 P

## Composizione chimica

C	Mn	Si	P	S	Cr	Ni	Mo	N	CEQ
0.02	1.85	0.33	0.0421	0.024	16.98	10.13	2.08	0.0556	4.816

## Specifiche del materiale 1

HB	RM	RE	A	Z
178.00	MPA	MPA	53.40 %	71.89 %
	634.02	355.87		

## Prove di resilienza

KCV					
J					
Direzione	Temperatura	Prova 1	Prova 2	Prova 3	Media
L	20 C	244	256	252	251

## Informazioni complementarie

Controllo antimescolanza / Antimix control: O.K  
Controllo superficiale / Surface control: O.K  
Controllo ultrasuoni / Ultrasonic test: EN 10308 (Class 3) O.K  
Durezza su prodotto allo stato di fornitura / Hardness on product  
Radioattività controllata / Radioactivity free: O.K  
Norma di riferimento / Reference standard: UNI EN 10088-3  
Conforme a / According to: EN 10204/3.1

Si dichiara che il prodotto sopra descritto è conforme alle prescrizioni dell'ordine.  
Il presente certificato IMS è copia conforme all'originale del produttore custodito presso i nostri archivi.

209109



# Inspection Certificate 3.1



Product **WT-6 5.0 x 2000mm BCR**  
Lot/Batch **18933712**  
Class **AWS A5.21 ERCOCR-A**

Customer Ref **OA24-197**  
Our Reference **0820206962 - 25.04.2024**  
Sales Order **48948506**  
Quantity **1617.5 KG**  
Customer **SOGES s.p.a.**  
**Via alla stazione di S. Quirico7**  
**Genova 16163**  
**Italy**

## Chemical analysis (%)

According to BS EN10204 3.1

C	Si	Mn	Cr	Ni	Mo	Co	W	Fe	TOE
1.21	1.27	0.34	28.72	2.14	0.43	59.27	4.62	1.95	<0.01

## Mechanical tests, all weld metal

## Hardness

According to BS EN10204 3.1

HRc  
46

## Remarks



**A.F. SALDATURE**  
di **FLAVIO FERRETTO s.r.l.**

Via Milano, 8  
20816 CERIANO LASCETTO (MB)  
Tel. 02/99692214

Cell. 334 334 334 334 334 334 334 334 334 334

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

Company

Issued By

Printed

Cert. No.

*AL Tgl*

By  
Date

Keiran Powell  
25-04-2024

**02343209**



SPECIAL ALLOYS



VIA UMBRIA, 9 - 20025 LEGNANO (MI) - TEL. 0331.407.024 - 0331.407.025 - FAX 0331.404.666

<b>Customer:</b> VSI CONTROLS SRL VIALE LUIGI MAJNO 17/A 20122 - MILANO MI IT	<b>Your order nr. :</b> X24-00130 <b>Date :</b> 19/02/2024	<b>Certificate nr. :</b> 883 <b>Date :</b> 01/03/2024	Pagina 1 di 1
--	---	--	---------------

Quantity	Product Description	Heat Nr.	Chemical composition:								Finish	Pos.	
			% C	% Mn	% Si	% Cr	% Mo	% S	% P				
			<b>Required Value</b>	Min:	0,38	0,75	0,15	0,80	0,15	0	0		
			<b>Max:</b>	0,48	1,00	0,35	1,10	0,25	0,040	0,035			
12,00	STUD-BOLTS L7M 5/8X11X75	BF1617		0,425	0,860	0,320	1,080	0,210	0,002	0,009		20	

Quantity	Product Description	Heat Nr.	Mechanical requirements:								Finish	Pos.
			Tensile Strength		Yield Strength	Elongation in 4D	Reduction of area	Hardness	Impact Test -73°C			
			N/mm2 - MPa		N/mm2 - MPa	%	%	HB	J			
			690 - 2000		550 - 2000	18 - 100	50 - 100	0 - 235	27 - 27 - 27			
12,00	STUD-BOLTS L7M 5/8X11X75	BF1617	789		652	25,30	63,00	206	38 - 39 - 38		20	

According to ASTM latest edition  
 Heat Treatment : Quenching liquid quenched- Tempering cooling air  
 We certify that the material is in accordance with the specifications of your order  
 Visual and Dimensional Test: Satisfactory  
 According to NACE MR 01-75- MR 01-03 - ISO15156  
 Macroetch and Decarburization Conforming  
 Mechanical requirements according to ASTM A.370  
 Direction of sampling : Longitudinal  
 Dimension (mm) : ~ 12,50



Heat nr: **BF1617** Certificate nr : **094760** date: **02/09/2020**

Reference DDT number : **193** of : **01/03/2024**

Quality Control  
 GIUSEPPE COLOMBO  
*(Signature)*

Inspection Agency



VIA UMBRIA, 9 - 20025 LEGNANO (MI) - TEL. 0331.407.024 - 0331.407.025 - FAX 0331.404.666

<b>Customer:</b> VSI CONTROLS SRL VIALE LUIGI MAJNO 17/A 20122 - MILANO MI IT	<b>Your order nr. :</b> X24-00890 <b>Date :</b> 13/09/2024	<b>Certificate nr. :</b> 4742 <b>Date :</b> 02/12/2024	Pagina 1 di 1
--	---	---	---------------

Quantity	Product Description	Heat Nr.	Chemical composition:								Finish	Pos.
			Required Value	Min:	% C	% Mn	% Si	% Cr	% Mo	% S		
16,00	HEAVY HEX NUTS GR.7ML 5/8X11	67777	Min:	0,380	0,750	0,150	0,800	0,150	0	0		50
			Max:	0,480	1,000	0,350	1,100	0,250	0,040	0,035		
				0,410	0,770	0,230	1,060	0,220	0,005	0,015		

Quantity	Product Description	Heat Nr.	Mechanical requirements:				Finish	Pos.
			Hardness	Hardness After Treatment 24h	Proof Load	Impact Test -73°C		
16,00	HEAVY HEX NUTS GR.7ML 5/8X11	67777	HB 159 - 235	HB 159 - 999	OK -	J 27 - 27 - 27	50	

16,00	HEAVY HEX NUTS GR.7ML 5/8X11	67777	226 - 239	221 - 234	OK	68 - 74 - 82	50
-------	------------------------------	-------	-----------	-----------	----	--------------	----

According to ASTM latest edition - Heavy hex nuts ANSI B18.2.2  
 Heat treatment: Quenching liquid quenched- Tempering cooling air  
 Minimum Tempering Temperature 620°C  
 We certify that the material is in accordance with the specification of your order  
 Visual and Dimensional Test: Satisfactory  
 According to NACE MR 01-75- MR 01-03 - ISO15156  
 Macro-etch- inspection: S1 R2 C2  
 Depth of Decarburization :0,00 in  
 satisfactory to ASTM-F-2328  
 Macroetch and Decarburization Conforming  
 Mechanical requirements according to ASTM A.370  
 Direction of sampling : Longitudinal  
 Dimension (mm) : ~ 12,50



Heat nr: **67777** Certificate nr : **146795** date: **28/04/2023**

Reference DDT number : **1013** of : **02/12/2024**

Quality Control  
 GIUSEPPE COLOMBO

Inspection Agency