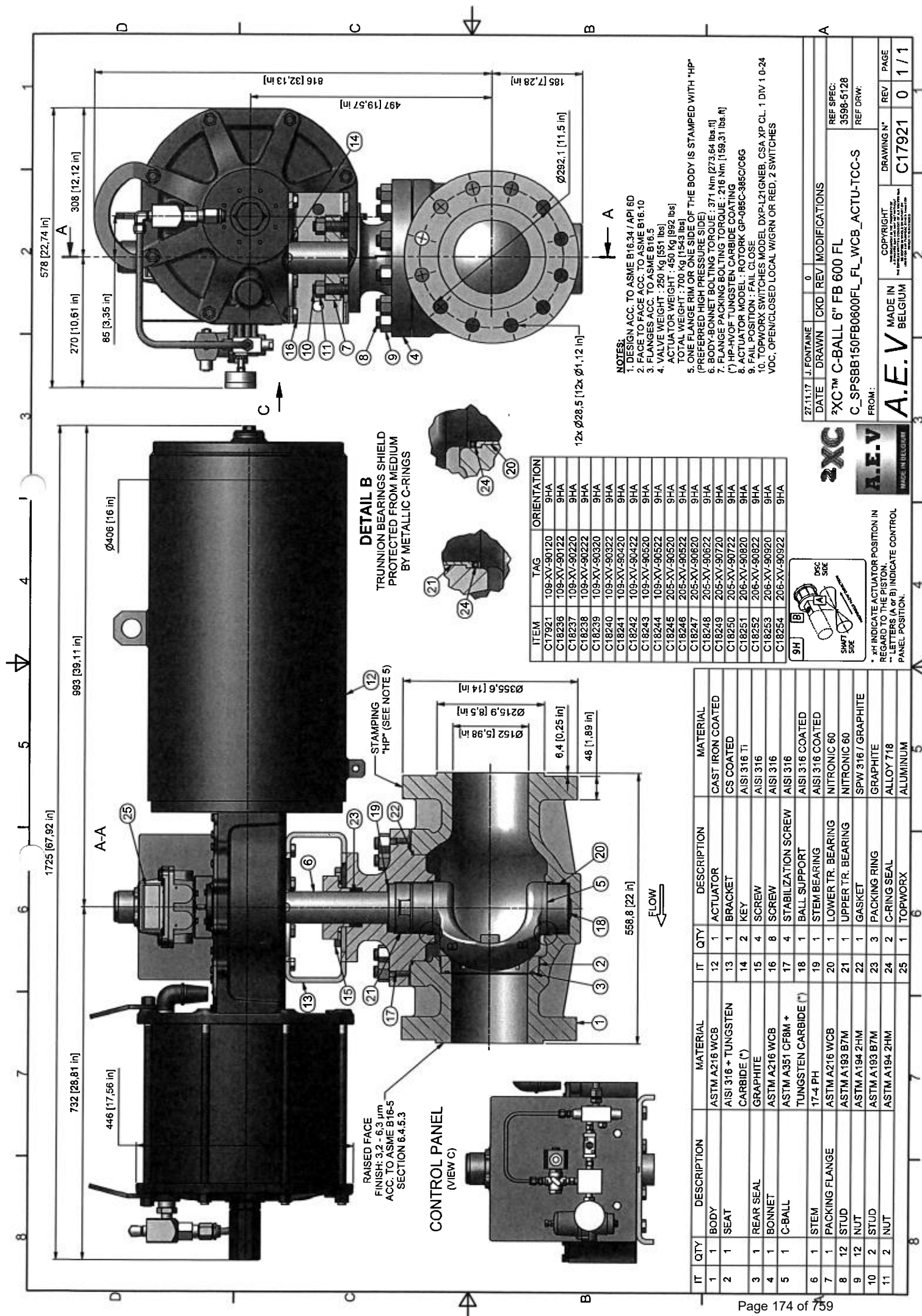


Material Certificate

1.5 C17921 TAG: see tag list

General Arrangement Drawing.....	
Certificate of Conformity	
Material Certificate.....	
Pickling & Passivation Certificate	
Dye Penetrant Certificate	
X-Ray Certificate	
Test Reports	



IT	QTY	DESCRIPTION	MATERIAL	IT	QTY	DESCRIPTION	MATERIAL
1	1	BODY	ASTM A216 WCB	12	1	ACTUATOR	CAST IRON COATED
2	1	SEAT	ISI 316 + TUNGSTEN CARBIDE (*)	13	1	BRACKET	CS COATED
3	1	REAR SEAL	GRAPHITE	14	2	KEY	ISI 316 Ti
4	1	BONNET	ASTM A216 WCB	15	4	SCREW	ISI 316
5	1	C-BALL	ASTM A351 CF8M + TUNGSTEN CARBIDE (*)	16	8	SCREW	ISI 316
6	1	STEM	17-4 PH	17	4	STABILIZATION SCREW	ISI 316
7	1	PACKING FLANGE	ASTM A216 WCB	18	1	BALL SUPPORT	ISI 316 COATED
8	12	STUD	ASTM A193 B7M	19	1	STEM BEARING	ISI 316 COATED
9	12	NUT	ASTM A194 2HM	20	1	LOWER TR. BEARING	NITRONIC 60
10	2	STUD	ASTM A193 B7M	21	1	UPPER TR. BEARING	NITRONIC 60
11	2	NUT	ASTM A194 2HM	22	1	GASKET	SPW 316 / GRAPHITE
				23	3	PACKING RING	GRAPHITE
				24	2	C-RING SEAL	ALLOY 718
				25	1	TOPWORX	ALUMINUM

27.11.17

J. FONTAINE

0

0

DATE

DRAWN

CKD

REV

MODIFICATIONS

2XC™ C-BALL 6" FB 600 FL

C-SPSBB150FB0800FL_FL_WCB_ACTU-TCC-S

REF SPEC:

3598-5128

REF DRW:

FROM:

2XC™

A.E.V.

MADE IN BELGIUM

COPYRIGHT

2017 A.E.V. BELGIUM

DRAWING N°

C17921

REV

0

PAGE

1 / 1



Certificate of Conformity

To EN 10204 3.1
Traceability sheets / Mill / Pressure

CUSTOMER:	HIVE INNOVATIONS Inc., c/o SCOVAN Engineering Inc	CUSTOMER REF:	PO 2017.473 - 0029	CERTIFICATE N°:	COC-000891
AEV REF:	3598-5128			Issue Date	02/05/2018

PRODUCT INFORMATION					
VALVE TYPE:	C_SPSBB150FB0600FL_WCB_ACTU-TCC-S	SIZE:	6"	RATING:	600
QUANTITY:	1.0	VALVE TAG N°:	109-XV-90120		
SERIAL NO:	C17921/1 - C17921/1				
DESCRIPTION:	C_SPSBB150FB0600FL_WCB_ACTU-TCC-S				

CUSTOMER ITEM NUMBER: 1.0

PRESSURE TEST AND INSPECTION (TEST ACCORDING TO API 598 / API 6D)										
SHELL TEST (Half open)	WATER	PRESSURE:	153.1	2219.95	DURATION:	300.0	RESULT:	SATISFACTORY	DIMENSIONAL INSPECTION:	PASSED
	WATER	PRESSURE:	88.66	1285.57	DURATION:	60.0	RESULT:	SATISFACTORY	OPERATIONAL INSPECTION:	PASSED
	N2	PRESSURE:	5	72.5	DURATION:	60.0	RESULT:	SATISFACTORY	VISUAL INSPECTION:	PASSED
	NA	PRESSURE:	0.0	0.0	DURATION:	0.0	RESULT:	SATISFACTORY		
		(Medium)		(Bars)		(PSI)		(Time Sec)		

OTHER PARTS AND MATERIALS				
PART NAME	MATERIAL	AEV CERT N°	HEAT NUMBER	X-RAY
Body	WCB	AEV-C10082	17Y41	
Bonnet	WCB	AEV-C10082	17114	
Ball	CF8M	AEV-C10049	17Y23	
Stem	17.4PH	AEV-C10054	507068	
Flange Packing	WCB	AEV-C10082	17159	
Seat	316+ CARBIDE	AEV-C10190	20131	
Bearing	NIT60	AEV-C9425	907036/907037	
Bolting Stud	B7M	AEV-C10432/AEV-C10453	194389/ 193931	
Bolting Nut	2HM	AEV-C10427/AEV-C10430	85010/ IVB23	

AE VALVES Rue de Gellee, 20 Petit-Rechain, 4800 Belgium	WE HEREBY CERTIFY, THAT THE MATERIAL AND THE PRODUCT DESCRIBED ABOVE HAS BEEN TESTED AND COMPLIED WITH THE TERMS OF THE ORDER		INSPECTED BY: Robin RIGATTI REVIEWED BY: Chloe ROGISTER QA MANAGER: Catherine FASSIN
--	---	--	--


GUJARAT ALLOYS CAST PVT LTD.

 8, ANKUR INDUSTRIAL COMPLEX, SHAPAR, DIST: RAJKOT-360024
 INDIA, PH-02827-252157 / 252757 FAX:02827 - 252756

INSPECTION CERTIFICATE
DIN EN 10204 - 3.1

Page 1 of 5

 M/s. AE VALVES SPRL
 RUE DE GELEE, 20
 B-4800 PETIT-RECHAIN
 BELGIUM

T.C No : EXP-0158/17-18/1/1

Date: 08/02/2018

PAC. No : EXP-0158/17-18

Date: 08/02/2018

P.O No : PO15527-5128

Date: 30/11/2017

 SPECIFICATION : ASTM A 216-12 Gr.WCB
 CONDITION OF SUPPLY : Heat treated to 900°C, then furnace cooled.

CHEMICAL ANALYSIS

HEAT #	C.%	Mn.%	Si.%	P.%	S.%	Cu.%	Ni.%	Cr.%	Mo.%	V.%	CE.%		
MIN	-	-	-	-	-	-	-	-	-	-	-		
MAX	0.300	1.000	0.600	0.035	0.035	0.300	0.500	0.500	0.200	0.030	0.500		
17117	0.205	0.836	0.386	0.019	0.009	0.008	0.032	0.123	0.005	0.001	0.380		
17159	0.207	0.855	0.394	0.020	0.008	0.012	0.097	0.362	0.015	0.003	0.440		
17114	0.196	0.845	0.375	0.019	0.009	0.010	0.057	0.220	0.011	0.002	0.390		
17115	0.193	0.887	0.364	0.020	0.010	0.012	0.046	0.157	0.007	0.002	0.380		
17116	0.178	0.832	0.354	0.020	0.009	0.001	0.006	0.136	0.043	0.002	0.360		
17117	0.205	0.836	0.386	0.019	0.009	0.008	0.032	0.123	0.005	0.001	0.380		
17Y40	0.220	0.885	0.431	0.020	0.007	0.009	0.047	0.161	0.007	0.002	0.410		
17Y41	0.200	0.869	0.434	0.020	0.008	0.010	0.049	0.152	0.007	0.002	0.380		
17Y42	0.220	0.820	0.420	0.021	0.008	0.010	0.049	0.136	0.007	0.001	0.390		

MECHANICAL PROPERTIES

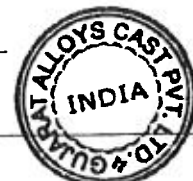
HEAT #	Y.S.0.2%	T.S	% Elgn	% Red	Hardness	Test	Impact (Joules)				LE			
	MPa	MPa		in Area	BHN	Temp	I	II	III	AVG	I	II	III	AVG
MIN	250.00	485.00	22	35	-	-	-	-	-	-	-	-	-	-
MAX	-	655.00	-	-	237	-	-	-	-	-	-	-	-	-
17117	331.58	576.83	28.40	48.15	144		-	-	-	-	-	-	-	-
17159	335.50	580.75	29.20	47.00	144		-	-	-	-	-	-	-	-
17114	305.58	567.51	26.80	48.15	141		-	-	-	-	-	-	-	-
17115	321.28	581.52	30.00	45.82	141		-	-	-	-	-	-	-	-
17116	296.85	573.69	27.00	48.15	144		-	-	-	-	-	-	-	-
17117	331.58	576.83	28.40	48.15	144		-	-	-	-	-	-	-	-
17Y40	300.97	577.22	28.60	47.00	147		-	-	-	-	-	-	-	-
17Y41	276.74	576.53	30.00	45.82	139		-	-	-	-	-	-	-	-
17Y42	321.28	556.13	27.40	49.38	141		-	-	-	-	-	-	-	-

DESPATCH DETAILS

HEAT #	PATT #	ITEM DESCRIPTION	DRAWING #	DESP.QTY
17117	2280195	100MM FLANGE PACKING 1500#	D0420 R.0	4
17159	2280195	100MM FLANGE PACKING 1500#	D0420 R.0	16
17114	2280356A	150MM BODY FB 600# FL	D1481 R.1	1
17115	2280356A	150MM BODY FB 600# FL	D1481 R.1	1
17116	2280356A	150MM BODY FB 600# FL	D1481 R.1	1
17117	2280356A	150MM BODY FB 600# FL	D1481 R.1	1
17Y40	2280356A	150MM BODY FB 600# FL	D1481 R.1	1
17Y41	2280356A	150MM BODY FB 600# FL	D1481 R.1	1
17Y42	2280356A	150MM BODY FB 600# FL	D1481 R.1	1

We hereby certify that items mentioned above conforms to : ASTM A 216-12 Gr.WCB

For GUJARAT ALLOYS CAST PVT LTD

 U. Bharthi
 Q.C. Incharge


Tested By : C. Jani


GUJARAT ALLOYS CAST PVT LTD.

 6, ANKUR INDUSTRIAL COMPLEX, SHAPAR, DIST: RAJKOT-360024
 INDIA, PH-02827-252157 / 252757 FAX:02827 - 252756

**INSPECTION CERTIFICATE
DIN EN 10204 - 3.1**

Page 3 of 5

 M/s. AE VALVES SPRL
 RUE DE GELEE, 20
 B-4800 PETIT-RECHAIN
 BELGIUM

T.C No : EXP-0158/17-18/1/1

Date: 08/02/2018

PAC. No : EXP-0158/17-18

Date: 08/02/2018

P.O No : PO15527-5128

Date: 30/11/2017

SPECIFICATION : ASTM A 216-12 Gr.WCB

CONDITION OF SUPPLY : Heat treated to 900°C, then furnace cooled.

CHEMICAL ANALYSIS

HEAT #	C.%	Mn.%	Si.%	P.%	S.%	Cu.%	Ni.%	Cr.%	Mo.%	V.%	CE.%		
MIN	-	-	-	-	-	-	-	-	-	-	-		
MAX	0.300	1.000	0.600	0.035	0.035	0.300	0.500	0.500	0.200	0.030	0.500		
17Z85	0.202	0.918	0.367	0.020	0.008	0.011	0.069	0.282	0.012	0.003	0.420		
17Z86	0.170	0.920	0.360	0.019	0.008	0.011	0.050	0.170	0.007	0.001	0.360		
17Z87	0.180	0.950	0.370	0.021	0.009	0.010	0.034	0.140	0.005	0.001	0.370		
17Z88	0.190	0.910	0.380	0.020	0.009	0.009	0.031	0.100	0.005	0.002	0.370		
17114	0.196	0.845	0.375	0.019	0.009	0.010	0.057	0.220	0.011	0.002	0.390		
17115	0.193	0.887	0.364	0.020	0.010	0.012	0.046	0.157	0.007	0.002	0.380		
17116	0.178	0.832	0.354	0.020	0.009	0.001	0.006	0.136	0.043	0.002	0.360		
17117	0.205	0.836	0.386	0.019	0.009	0.008	0.032	0.123	0.005	0.001	0.380		
17159	0.207	0.855	0.394	0.020	0.008	0.012	0.097	0.362	0.015	0.003	0.440		

MECHANICAL PROPERTIES

HEAT #	Y.S ^{0.2} %	T.S	% Elgn	% Red	Hardness	Test	Impact (Joules)				LE			
	MPa	MPa		in Area	BHN	Temp	I	II	III	AVG	I	II	III	AVG
MIN	250.00	485.00	22	35	-	-	-	-	-	-				
MAX	-	655.00	-	-	237	-	-	-	-	-				-
17Z85	287.83	560.64	30.00	48.15	139		-	-	-	-	-	-	-	-
17Z86	319.51	553.68	27.60	48.15	141		-	-	-	-	-	-	-	-
17Z87	295.87	561.62	30.40	45.82	144		-	-	-	-	-	-	-	-
17Z88	308.33	552.79	28.80	44.64	147		-	-	-	-	-	-	-	-
17114	305.58	567.51	26.80	48.15	141		-	-	-	-	-	-	-	-
17115	321.28	561.52	30.00	45.82	141		-	-	-	-	-	-	-	-
17116	296.85	573.69	27.00	48.15	144		-	-	-	-	-	-	-	-
17117	331.58	576.83	28.40	48.15	144		-	-	-	-	-	-	-	-
17159	335.50	580.75	29.20	47.00	144		-	-	-	-	-	-	-	-

DESPATCH DETAILS

HEAT #	PATT #	ITEM DESCRIPTION	DRAWING #	DESP.QTY
17Z85	2280356A	150MM BODY FB 600# FL	D1481 R.1	1
17Z86	2280356A	150MM BODY FB 600# FL	D1481 R.1	1
17Z87	2280356A	150MM BODY FB 600# FL	D1481 R.1	1
17Z88	2280356A	150MM BODY FB 600# FL	D1481 R.1	1
17114	2280358A	150MM BONNET FLAT 600#	D1482 R.1	1
17115	2280358A	150MM BONNET FLAT 600#	D1482 R.1	1
17116	2280358A	150MM BONNET FLAT 600#	D1482 R.1	1
17117	2280358A	150MM BONNET FLAT 600#	D1482 R.1	1
17159	2280358A	150MM BONNET FLAT 600#	D1482 R.1	2

We hereby certify that items mentioned above conforms to : ASTM A 216-12 Gr.WCB

For GUJARAT ALLOYS CAST PVT LTD

Tested By : C. Jani

 U. Bharthi
 Q.C. Incharge


GUJARAT ALLOYS CAST PVT. LTD.



MAGNETIC PARTICLE TEST CERTIFICATE

Report: 225-0173

Date : 09/02/2018

Customer : AE VALVES SPRL
 Equipment & Make : MAGNAPORT 4000 WG - MAGNAFIELD
 Surface Condition : AS CAST & MACHINED
 Stage of Test : BEFORE AND AFTER HEAT TREATMENT
 Prod Spacing : 3" TO 5"
 Current : HWDC
 Test Temp. : AMBIENT
 Type Of Test : CIRCULAR PROB METHOD
 Procedure Ref. : ASME B16.34
 Acceptance Stand. : ANSI B16.34 APPE.II
 Method of Testing : BY BRUSH
 Magnetizing Current : HWDC
 Tested Area : 100% (ALL ACCESSIBLE AREA)
 Grade : WCB
 Specification : ASTM A-216 GR.WCB
 Magnet. Medium : MAGANAFLUX MAGNAGLO 2410

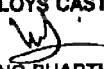
Page 1 of 3

Sl.N	PO.NO.	Description	Drawing	Heat No.	MPI No.	Qty.	Result
1	2280356A PO15527-5128	150MM BODY FB 600# FL	D1481 R.1	17114	MPI 17114	1	Acceptable
2	2280356A PO15527-5128	150MM BODY FB 600# FL	D1481 R.1	17115	MPI 17115	1	Acceptable
3	2280356A PO15527-5128	150MM BODY FB 600# FL	D1481 R.1	17116	MPI 17116	1	Acceptable
4	2280356A PO15527-5128	150MM BODY FB 600# FL	D1481 R.1	17117	MPI 17117	1	Acceptable
5	2280356A PO15527-5128	150MM BODY FB 600# FL	D1481 R.1	17Y40	MPI 17Y40	1	Acceptable
6	2280356A PO15527-5128	150MM BODY FB 600# FL	D1481 R.1	17Y41	MPI 17Y41	1	Acceptable
7	2280356A PO15527-5128	150MM BODY FB 600# FL	D1481 R.1	17Y42	MPI 17Y42	1	Acceptable
8	2280356A PO15527-5128	150MM BODY FB 600# FL	D1481 R.1	17Y43	MPI 17Y43	1	Acceptable
9	2280356A PO15527-5128	150MM BODY FB 600# FL	D1481 R.1	17Y45	MPI 17Y45	1	Acceptable
10	2280356A PO15527-5128	150MM BODY FB 600# FL	D1481 R.1	17Y85	MPI 17Y85	1	Acceptable
11	2280356A PO15527-5128	150MM BODY FB 600# FL	D1481 R.1	17Y44	MPI 17Y44	1	Acceptable
12	2280356A PO15527-5128	150MM BODY FB 600# FL	D1481 R.1	17Y86	MPI 17Y86	1	Acceptable
13	2280356A PO15527-5128	150MM BODY FB 600# FL	D1481 R.1	17Y87	MPI 17Y87	1	Acceptable
14	2280356A PO15527-5128	150MM BODY FB 600# FL	D1481 R.1	17Y89	MPI 17Y89	1	Acceptable
15	2280356A PO15527-5128	150MM BODY FB 600# FL	D1481 R.1	17Y90	MPI 17Y90	1	Acceptable
16	2280356A PO15527-5128	150MM BODY FB 600# FL	D1481 R.1	17Z85	MPI 17Z85	1	Acceptable
17	2280356A PO15527-5128	150MM BODY FB 600# FL	D1481 R.1	17Z86	MPI 17Z86	1	Acceptable

 UMANG BHARTHI
 (RT/UT/DP/MPI)

for GUJARAT ALLOYS CAST PVT. LTD.

 UMANG BHARTHI
 LEVEL-II APPROVED


GUJARAT ALLOYS CAST PVT. LTD.		 Report: 228-0173 Date : 09/02/2018					
MAGNETIC PARTICLE TEST CERTIFICATE							
Customer : AE VALVES SPRL Equipment & Make : MAGNAPORT 4000 WG - MAGNAFIELD Surface Condition : AS CAST & MACHINED Stage of Test : BEFORE AND AFTER HEAT TREATMENT Prod Spacing : 3" TO 5" Current : HWDC Test Temp. : AMBIENT Type Of Test : CIRCULAR PROB METHOD							
Procedure Ref. : ASME B16.34 Acceptance Stand. : ANSI B16.34 APPE.II Method of Testing : BY BRUSH Magnetizing Current : HWDC Tested Area : 100% (ALL ACCESSIBLE AREA) Grade : WCB Specification : ASTM A-216 GR.WCB Magnet. Medium : MAGANAFLUX MAGNAGLO 2410							
Page 2 of 3							
18	2280358A PO15527-5128	150MM BODY FB 600# FL	D1481 R.1	17Z87	MPI 17Z87	1	Acceptable
19	2280358A PO15527-5128	150MM BODY FB 600# FL	D1481 R.1	17Z88	MPI 17Z88	1	Acceptable
20	2280358A PO15527-5128	50MM BONNET FLAT 600#	D1482 R.1	17114	MPI 17114	1	Acceptable
21	2280358A PO15527-5128	50MM BONNET FLAT 600#	D1482 R.1	17115	MPI 17115	1	Acceptable
22	2280358A PO15527-5128	50MM BONNET FLAT 600#	D1482 R.1	17116	MPI 17116	1	Acceptable
23	2280358A PO15527-5128	50MM BONNET FLAT 600#	D1482 R.1	17117	MPI 17117	1	Acceptable
24	2280358A PO15527-5128	50MM BONNET FLAT 600#	D1482 R.1	17159	MPI 17159	2	Acceptable
25	2280358A PO15527-5128	50MM BONNET FLAT 600#	D1482 R.1	17Y85	MPI 17Y85	1	Acceptable
26	2280358A PO15527-5128	50MM BONNET FLAT 600#	D1482 R.1	17Y86	MPI 17Y86	1	Acceptable
27	2280358A PO15527-5128	50MM BONNET FLAT 600#	D1482 R.1	17Y87	MPI 17Y87	1	Acceptable
28	2280358A PO15527-5128	50MM BONNET FLAT 600#	D1482 R.1	17Y88	MPI 17Y88	4	Acceptable
29	2280358A PO15527-5128	50MM BONNET FLAT 600#	D1482 R.1	17Y89	MPI 17Y89	1	Acceptable
30	2280358A PO15527-5128	50MM BONNET FLAT 600#	D1482 R.1	17Y90	MPI 17Y90	1	Acceptable
31	2280358A PO15527-5128	50MM BONNET FLAT 600#	D1482 R.1	17Y91	MPI 17Y91	1	Acceptable
32	2280358A PO15527-5128	50MM BONNET FLAT 600#	D1482 R.1	17Z30	MPI 17Z30	2	Acceptable
33	2280358A PO15527-5128	50MM BONNET FLAT 600#	D1482 R.1	17Z87	MPI 17Z87	1	Acceptable
34	2280358A PO15527-5128	50MM BONNET FLAT 600#	D1482 R.1	17Z88	MPI 17Z88	1	Acceptable
UMANG BHARTHI (RT/UT/DP/MPI)			for GUJARAT ALLOYS CAST PVT. LTD.  UMANG BHARTHI LEVEL-II APPROVED				



		GUJARAT ALLOYS CAST PVT. LTD.		 Report : 228-0173 Date : 09/02/2018			
		MAGNETIC PARTICLE TEST CERTIFICATE					
Customer : AE VALVES SPRL Equipment & Make : MAGNAPORT 4000 WG - MAGNAFIELD Surface Condition : AS CAST & MACHINED Stage of Test : BEFORE AND AFTER HEAT TREATMENT Prod Spacing : 3" TO 5" Current : HWDC Test Temp. : AMBIENT Type Of Test : CIRCULAR PROB METHOD		Procedure Ref. : ASME B16.34 Acceptance Stand. : ANSI B16.34 APPE.II Method of Testing : BY BRUSH Magnetizing Current : HWDC Tested Area : 100% (ALL ACCESSIBLE AREA) Grade : WCB Specification : ASTM A-216 GR.WCB Magnet. Medium : MAGANAFLUX MAGNAGLO 2410					
Page 3 of 3							
35	2280195 PO15527-5128	100MM FLANGE PACKING 1500#	D0420 R.O	17117	MPI17117	4	Acceptable
36	2280195 PO15527-5128	100MM FLANGE PACKING 1500#	D0420 R.O	17159	MP 17159	16	Acceptable
							
UMANG BHARTHI (RT/UT/DP/MPI)				for GUJARAT ALLOYS CAST PVT. LTD.  UMANG BHARTHI LEVEL-II APPROVED			


GUJARAT ALLOYS CAST PVT LTD.

 6, ANKUR INDUSTRIAL COMPLEX, SHAPAR, DIST: RAJKOT-360024
 INDIA, PH:02827-252157 / 252757 FAX:02827 - 252758

**INSPECTION CERTIFICATE
DIN EN 10204 - 3.1**

Page 1 of 1

 M/s. AE VALVES SPRL
 RUE DE GELEE, 20
 B-4800 PETIT-RECHAIN
 BELGIUM

T.C No : EXP-0144/17-18/2/1

Date: 29/01/2018

PAC. No : EXP-0144/17-18

Date: 29/01/2018

P.O No : PO15527-5128

Date: 30/11/2017

 SPECIFICATION : ASTM A 351 Gr. CF8M (2014)
 CONDITION OF SUPPLY : SOLUTION ANNEALED

CHEMICAL ANALYSIS

HEAT #	C.%	Mn.%	Si.%	P.%	S.%	Ni.%	Cr.%	Mo.%						
MIN	-	-	-	-	-	9.000	18.000	2.000						
MAX	0.080	1.500	1.500	0.040	0.040	12.000	21.000	3.000						
17Y01	0.022	1.090	0.802	0.036	0.004	9.390	18.660	2.090						
17Y16	0.024	1.050	0.890	0.027	0.004	9.770	18.920	2.110						
17Y23	0.020	1.120	0.783	0.028	0.003	9.990	18.520	2.110						

MECHANICAL PROPERTIES

HEAT #	Y.S ^{0.2%}	T.S	% Elgn	% Red	Hardness	Test	Impact (Joules)				LE			
	MPa	MPa		In Area	BHN	Temp	I	II	III	AVG	I	II	III	AVG
MIN	205.00	485.00	30	0	-	-	-	-	-	-	-	-	-	-
MAX	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17Y01	251.04	523.76	46.60	-	147	-	-	-	-	-	-	-	-	-
17Y16	255.79	567.71	50.00	-	141	-	-	-	-	-	-	-	-	-
17Y23	273.01	502.37	46.80	-	144	-	-	-	-	-	-	-	-	-

DESPATCH DETAILS

HEAT #	PATT #	ITEM DESCRIPTION	DRAWING #	DESP.QTY
17Y01	2280043C	150MM C-BALL FB 900#	D2813 R.0	10
17Y16	2280043C	150MM C-BALL FB 900#	D2813 R.0	1
17Y23	2280043C	150MM C-BALL FB 900#	D2813 R.0	9

We hereby certify that items mentioned above conforms to : ASTM A 351 Gr. CF8M (2014)

For GUJARAT ALLOYS CAST PVT LTD

Tested By : C. Jani

 U. Bharti
 Q.C. Incharge


BALL

**GUJARAT ALLOYS CAST PVT LTD.**6, ANKUR INDUSTRIAL COMPLEX, SHAPAR DIST: RAJKOT-360024
GUJARAT, INDIA PH: +91-2827-252157 FAX: +91-2827 - 252756**CERTIFICATE
(ACID PICKLING & PASSIVATION)**

Page 1 of 1

M/s. AE VALVES SPRL
RUE DE GELEE, 20
B-4800 PETIT-RECHAIN
BELGIUM

T.C No : EXP-0144/17-18/2

Date: 29/01/2018

PAC. No : EXP-0144/17-18

Date: 29/01/2018

O.A No : 228-17123

Date: 02/12/2017

P.O. No : PO15527-5128

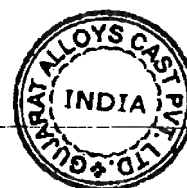
Date: 30/11/2017

SPECIFICATION : ASTM A 351 Gr. CF8M (2014)

WE HEREBY CERTIFY THAT FOLLOWING ITEMS HAVE BEEN ACID PICKLED AND PASSIVATED (AS PER ASTM A380 POST MACHII

HEAT #	PATT #	ITEM DESCRIPTION	DRAWING #	QTY
17Y01	2280043C	150MM C-BALL FB 900#	D2813 R.0	10
17Y16	2280043C	150MM C-BALL FB 900#	D2813 R.0	1
17Y23	2280043C	150MM C-BALL FB 900#	D2813 R.0	9

For GUJARAT ALLOYS CAST PVT LTD

U. Bharthi
Q.C. Incharge

GUJARAT ALLOYS CAST PVT. LTD.

6, ANKUR INDUSTRIAL COMPLEX, SHAPAR, DIST.RAJKOT, GUJARAT, INDIA, Pincode : 360024
 Phone : +91-2827-252157 / 252757, Fax : +91-2827-252756, Mail : gac@gacgroup.com www.gacgroup.com
 VAT No. : 24092500340, CST No. : 24592500340, ECC No. : 24AAACG7862R1ZZ

F10QC10/00

DYE - PENETRANT INSPECTION REPORT

Customer : AE VALVES SPRL
 RUE DE GELEE, 20
 B-4800 PETIT-RECHAIN
 BELGIUM

Report : 228-4346
 Date : 29/01/2018

Page 1 of 1

Surface Condition : AS CAST & MACHINED
 Reference Standard : ASME B16.34 APP. III
 Grade : CF8M
 Mode Of Penetrant : BY BRUSH
 Penetrant Removal : BY WATER
 Surface Temperature : ROOM TMEP.
 Type Of Penetrant : Magnaflux SKL-WP

Type of Developer : Magnaflux SKD-S2
 Type Of Cleaner : BY WATER
 Standard : ASTM A-351 GR.CF8M
 Penetrant Dwell Time : 20 MINUTES
 Developer Dwell Time : 15 MINUTES
 Metal : S.S.
 Acceptance STD : ASME B16.34 APPE.III

SI	PO NO.	Description	Tool No.	Drawing No.	DPI No.	Heat No.	Qty.	Result
1	PO15527-5128	150MM C-BALL FB 900#	2280043C	D2813 R.0	DP 17Y01	17Y01	10	Acceptable
2	PO15527-5128	150MM C-BALL FB 900#	2280043C	D2813 R.0	DP 17Y16	17Y16	1	Acceptable
3	PO15527-5128	150MM C-BALL FB 900#	2280043C	D2813 R.0	DP 17Y23	17Y23	9	Acceptable

DPI TEST CARRIED OUT AT ALL ACCESSIBLE AREA



U. Bharthi
 Level II MT,PT,RT
 Approved

for GUJARAT ALLOYS CAST PVT. LTD.


 UMAN BHARATHI
 LEVEL-II APPROVED



ESS Ancon Limited
Napier Works
Spencer Park, Greasbrough Street
Rotherham, S60 1RF, United Kingdom

t +44 (0) 114 261 9988
e sales@ess-ancon.com
www.ess-ancon.com

Registered in England: 10904143

LETTER OF CONFORMITY

No: 158195

Cert Date: 30/01/18

Customer:
A E VALVES
RUE DE GELEE, 20
PETIT-RECHAIN, 4800
VERVIERS
BELGIUM

Deliver to:
A E VALVES
RUE DE GELEE, 20
PETIT-RECHAIN, 4800
VERVIERS
BELGIUM

We hereby confirm that the undemoted goods conform to your order requirements

Your Order No: PO16259-1Q2-2018

Our Order Ref: 341851/001

Our Other Ref:

Part No:

Advice Note No: 351027

Specification: 17/4PH CONDITION H1150M

Batch No: P5439

Cast No: 507068 STEM

Description:

1 OFF 101.6MM DIA X 1775MM LONG

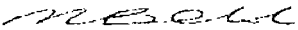
CERTIFICATION IN ACC WITH BSEN 10204/3.1

AE VALVES LINE 1

**€1000 DISCOUNT TO BE APPLIED ACROSS ENTIRE
PO**

Quantity: 1 Piece; 113 Total Kg; 1.775 Metre

This Material is supplied from a third party approved source.
All material supplied on this consignment, where applicable, has been subjected to hardness testing on each bar upon receipt in our works. Figures obtained are in compliance with the referenced specifications stated herein pertaining at the time. Records exist and are maintained of such hardness.

Signed: 

Position: Service Delivery Administrator

Doc n°:AEV-C10054

Usine productrice/Hersteller/Manufacturer Ugine Avenue Paul Girod - CS 90100 73403 Ugine Cedex France		INSPECTION CERTIFICATE 3.1 CERTIFICAT DE RECEPTION 3.1 ABNAHMEPRUEFZEUGNIS 3.1 EN 10204 / 3.1		UGITECH Providing special steel solutions			
Numéro certificat/Nummer/Number 81508888 000010		Ordre de fab. / Auftrag / Prod. Order A1512CX16000		N° coulée / Schmelzen Nr / Heat N° 507068		N° lot MM / Chargen / Batch 1512CX1600	
Certification - Werkzeugs - Certificate AD 2000-MERKBLATT W0/TRD100 Pressure Equipment Directive 97/23/EC ISO 9001 ISO/TS 16949		ISO 9100 ISO 9120		Marque d'usine Herstellerzeichen Supplier's Mark 		Poinçon de l'expert Prüfstempel Inspector's stamp IQ	
UGI 4542Q BAR TURNED POLISHED DOUBLE TEMPERING COND. H1150D K11 ROUND 101,600MM LO NG. 6,000M + 400,000MM -0,000MM Produkt UGI 4542Q BARRE TOURNÉE POLIE DOUBLE REVENU COND. H1150D K11 ROND(E) 101,600MM LONG. 6,000M + 40 Erzeugnisform UGI 4542Q STAB GESCHÄLT POLIERT ABGESCHRECKT UND AUSGEHÄRTET COND. H1150D K11 RUND 101,600MM LO Product UGI 4542Q BAR TURNED POLISHED DOUBLE TEMPERING COND. H1150D K11 ROUND 101,600MM LONG. 6,000M + 4							
Client - Besteller - Purchaser 29174 SCHMOLZ + BICKENBACH (UK)		N° cde client - Kundenbestellnummer - Purchase order number 2959005976		Commande - Bestellung - Order 648660 10			
Norme de référence / Bezugsnorm / Standard for reference NACE MR0175/ISO 15156-3:2009 630 ASME SA564/564M-13 Sec.II TYPE 630 JIS G4303 ED2012 SUS630 UNS 12th Edition S17400 ASTM A564/A564M-13 TYPE 630 EN 10088-3 ED 2005 1.4542 NACE MR 0103 Ed 2012 630 AISI 630 ANCON SPECIAL ALLOY STEELS LTD CERTIFIED TRUE COPY OF THE ORIGINAL CHECKED BY THE COMMERCIAL SUPPORT DEPT							
Spécification client / Kundenspezifikation / Customer's specification INTOCO 17-4PH H1150D DIN X5CRNICUNB 16-4 ANALYSIS ONLY - AUG 2012							
Nombre Stückzahl Pieces Nbr 12		Profil Profile Shape RO		Dimension Ausmessung Dimension 101,600		Longueur Länge Length 6,000	
Poids Gewicht Weight 4823 KG							
Mode d'élaboration Erzeugnisform Melling process EAF + AOD + CC		N° prélèvement Probenummer Test number 8UEW		Demandé / Vorschrift / Required Min Max 0,0700 0,7000 1,0000 5,0000 17,0000 0,6000 3,0000 0,0300 coulée/ Schmelzen / Heat 0,0260 0,3250 0,7730 4,8870 16,5860 0,0660 3,1000 0,0178 Produkt / Erzeugnisform/ Product			
Demandé / Vorschrift / Required Min Max 0,0214 0,1990 0,0100 coulée/ Schmelzen / Heat 0,0214 0,1990 0,0100 Produkt / Erzeugnisform/ Product		Demandé / Vorschrift / Required 50 51 52 53 54 55 70 71 72 73 74 75 % P % NB % TA Min Max 0,0400 0,4500 coulée/ Schmelzen / Heat 0,0214 0,1990 0,0100 Produkt / Erzeugnisform/ Product					
Demandé / Vorschrift / Required Min Max 0,0214 0,1990 0,0100 coulée/ Schmelzen / Heat 0,0214 0,1990 0,0100 Produkt / Erzeugnisform/ Product		Demandé / Vorschrift / Required 76 77 78 79 80 81 82 83 84 85 86 87 NBTA Min Max 0,21 coulée/ Schmelzen / Heat 0,21 Produkt / Erzeugnisform/ Product					
We declare that the mentioned product is in compliance with the requirements of the contract and that, after checks and tests, it meets in all respects the specified requirements and applicable standards and regulations, except reservations or exceptions as listed in this declaration of conformity; Document validated by electronic signature. Material manufactured in the REACH regulation respect.				Ugine le 13.03.2015 Le Responsable Métallurgie-Qualité Der Qualitätsbeauftragter The Quality Manager 			
We declare that the mentioned product is in compliance with the requirements of the contract and that, after checks and tests, it meets in all respects the specified requirements and applicable standards and regulations, except reservations or exceptions as listed in this declaration of conformity; Document validated by electronic signature. Material manufactured in the REACH regulation respect.				66-1 66-2 040000858001 Page 1/2			

Doc n°:AEV-C10054

Usine productrice/Hersteller/Manufacturer Ugine Avenue Paul Girod - CS 90100 73403 Ugine Cedex France			INSPECTION CERTIFICATE 3.1 CERTIFICAT DE RECEPTION 3.1 ABNAHMEPRUEFZEUGNIS 3.1 ----- EN 10204 / 3.1						UGITECH Providing special steel solutions 			
Numéro certifié/Nummer/Number 81508888 000010			Ordre de fab. / Auftrag / Prod. Order A1512CX16000			N° coulé / Schmelzen Nr / Heat N° 507068			N° lot MM / Chargen / Batch 1512CX1600			
24		90	Limite d'élasticité Streckgrenze Yield Strength 0,2% 1% Mpa Mpa		RM Zugfestigkeit Tensile Mpa	Allongement Bruchdehnung Elongation A5D A4D % %		Striction Einschnürung Red area %	Dureté-Haerte-Hardness HB HV HRB HRC			
13		Min Max Min Max	20 20 725 725		931	16 18		55	255 311 24 33			
N° prélèvement Probennummer Test number 8UEW		1 L	20	824	975	22	24	64	299	32		
39B												
A l'état de Référence / treatment on test sample / Probestreifenbehandlung												
14		25	26A	26B	27	28	29	30	31	32	33	
Taux de corroyage Forging ratio Verschmiedungsgrad 4,9		Résilience-Kerbschlagzähigkeit-Notch Toughness										
101		31	33	32	95	Valeurs Individuelles Einzelwerte Individual values		Moyenne Mittelwerte Average	Expansion latérale Seitliche Breitung Lateral Expansion			
A l'état de livraison / Lieferzustand / As delivered		KISOV	°C	J	J	105-110-112 64-65-67		J	91			
13		KISOV	20	L	45	105-110-112 64-65-67		109				
TH 1040° C 2H + RU 620° C 4H + RU 620° C 4H AIR COOLED		KISOV	-60	L	45	105-110-112 64-65-67		65				
A l'état de Référence / treatment on test sample / Probestreifenbehandlung												
14												
ULTRASONIC TEST PERFORMED ACCORDING TO ASTM/ASME A388 : CONFORM ULTRASONIC TEST PERFORMED AND CONFORM ACCORDING TO API 6A PSL4 FERRITE CONTENT 5% MAX PER AMS 2315F MATERIAL IS FREE FROM MERCURY AND RADIOACTIVE CONTAMINATION , WELDS OR WELD REPAIRS AT TIME OF SHIPMENT COUNTRY OF MELT SOURCE : FRANCE												
ANCON SPECIAL ALLOY STEELS LTD CERTIFIED TRUE COPY OF THE ORIGINAL CHECKED BY THE COMMERCIAL SUPPORT DEPT												
We declare that the mentioned product is in compliance with the requirements of the contract and that, after checks and tests, it meets in all respects the specified requirements and applicable standards and regulations, except reservations or exceptions as listed in this declaration of conformity ; Document validated by electronic signature. Material manufactured in the REACH regulation respect.												
We declare that the mentioned product is in compliance with the requirements of the contract and that, after checks and tests, it meets in all respects the specified requirements and applicable standards and regulations, except reservations or exceptions as listed in this declaration of conformity ; Document validated by electronic signature. Material manufactured in the REACH regulation respect.												
Ugine le 13.03.2015 Le Responsable Métallurgie-Qualité Der Qualitätsbeauftragter The Quality Manager 040000858001 Page 2/2												

Doc n°:AEV-C10054

Certificat de contrôle Ultrasons
(CERTIFICATE OF ULTRASONIC TESTING)

UGITECH

Providing special steel solutions



Appareil type : ROWA
GE Inspection Technologies

Date: 13/03/2015 15:43:12		Ligne de controle UC2	
PV n°: Nuance: 630 (GRADE) Nb barres: 12 (BARS QTY) Poids: 4823 KG (WEIGHT)		Client: SCHMOLZ + BICKENBACH (UK) LTD . N° Cde Client: 2959005976 (CUSTOMER) (CUSTOMER ORDER) LOT:1512CX1600 Spécifications Client: (CUSTOMER SPECIFICATION) ASTM A388 and API 6A PSL4 B24 0 BIRMINGHAM GDE BRETAGNE	
1 - Identification produit: (IDENTIFICATION PRODUCT) N° Subdivision: 2CX16000 (WORKS ORDER) Coulée: 507068 (HEAT) Diamètre barre: 101,6 (BAR DIAMETER)		2 - Conditions d'examen: (INSPECTION CONDITIONS) Etiré Tourné Poli Meulé Autre (DRAWN) (TURNED) (FINE GROUND) (GROUND) (OTHER) Etat de surface du produit: (SURFACE CONDITION) ☒ ☐ Etat de livraison du produit: (DELIVERED CONDITION)	
3 - Réglage: (CALIBRATION) -Vitesse défilement produit: 0,40 m/s -Longueur: 6 m (MOVING SPEED) (LENGTH) -Traducteurs/probes: 10 SONDES Phased array -Fréquence: 5 MHz -Couplant: eau/water -Consigne: UC26C100M -Calibrage: Diamètre Equivalent: 3 mm (INSTRUCTION) TFP (FBH) -Tête US: C ☒ DAC (UT HEAD) -Angle en OT(Deg): 42.0 Scanning Radial Extent of examination 100 % surface Barres de référence (Reference blocks) Stainless bar n° UC2-3-US-SENSIBILITE			
4 - Opérateur: (NDT OPERATOR) - Nom: GARDET CLAUDE - Niveau: 1 - Signature: 39100 (NAME) (LEVEL) (SIGNING)			
5 - Inspecteur qualité: (NDT INSPECTOR) Résultat du contrôle (test result) Barres conformes aux spécifications (All bars are in compliance with the specifications) - Date de vérification résultats du PV: 23/03/2015 09:47:30 (DATE OF VERIFICATION CERTIFICATE) - Nom: VERDIER LILIAN - Niveau: 2 - Signature: (NAME) (LEVEL) (SIGNING)			
6 - Organisme réceptionnaire: (CUSTOMER'S INSPECTOR) - Nom: - Signature: - Date de réception: (NAME) (SIGNING) (RECEPTION DATE)			

Doc n°:AEV-C10054

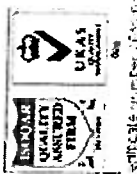
ANCON SPECIAL ALLOY STEELS LTD
CERTIFIED TRUE COPY OF THE ORIGINAL
CHECKED BY THE COMMERCIAL
SUPPORT DEPT

CERTIFICATE OF CONFORMITY



QUALITY HEAT TREATMENTS LTD

Chesterton Way, Eastwood Trading Estate, Rotherham S65 1ST
Tel: (01709) 379188 Fax: (01709) 829849



NO: CT 50387
DATE: 08/08/2016

Ancon SAS
Napier Works
Spencer Park
Greasborough Street
Rotherham

560 1RF

"Certified that the supplies/services detailed hereon have been treated and inspected in accordance with the conditions and requirements of the contract or purchase order, and unless otherwise noted below, conform in all respects to the specification(s) drawing(s) relevant thereto".

ALL FURNACES CALIBRATED AND SURVEYED TO ASTM A991 /API 6A ANNEX M
AND NORSOK M650 ANNEX B, HARDNESS TESTING IN ACC WITH ASTM E10 / ASTM E110

Customer Reference	Qty	Description	Cast No / Melt No	Material Grade	Treatment	BHN Hardness / Specification	Treatment (Temp/Time) (°C)	Cooling Media	Checked %	Result (BHN)
H118360	3	101.6MM DIA X 6100MM LONG APPROX	507068	17/4 PH	DOUBLE AGED	ASTM A564 630 H1150M	760 - 2 HOURS	AC	33%	268 BHN
REF: 107730/PRD		620 - 4 HOURS AC								

TEMPERATURE MONITORING METHOD : FURNACE T/CUPLE (UNLESS OTHERWISE STATED)

KEY AN - ANNEAL DT - DOUBLE TEMPER H - HARDEN N - NORMALISE Q - QUENCH SH - STRESS RELIEVE T - TEMPER A - AIR O - OIL W - WATER

FOR QUALITY HEAT TREATMENTS LTD

[Signature]

METALS TECHNOLOGY TESTING LTD

www.mttesting.co.uk office@mttesting.co.uk

TEL: +44 (0) 114 243 7271 FAX: +44 (0) 114 243 7288

FINCHWELL CLOSE, SHEFFIELD, S13 9DF, UK



No. 0963

TEST CERTIFICATE

Job No. 273920
Cust. O/No. 006388
Ancon Special Alloy Steel 107730/PRD
Rcvd./Reported 17-08-2016 / 18-08-2016
MTT Sample No. 600
Cust. Sample ID 101.6mm Dia, Cast 507068
Specification ASTM A564 Type 630 H1150M (17/4PH)

Address
Quality Steel Stock Ltd
Chesterton Way, Eastwood Trading Estate
Rotherham
S65 1SU

Measurand	Standard/Method	Unit	Min.	Max.	ACTUAL
Hardness Results					
Brinell	ASTM E10-15	HBW10/3000	255		255
Impact Results					
2mmV @ +23°C #1	ASTM A370-14	J			125
2mmV @ +23°C #2	ASTM A370-14				198
2mmV @ +23°C #3	ASTM A370-14				128
2mmV @ +23°C AVG	ASTM A370-14		75		150
Tensile Results					
Yield strength 0.2% offset	ASTM A370-14	KSI	75		100.5
UTS (Rm)	ASTM A370-14	KSI	115		127.6
Elongation (A)	ASTM A370-14	%	18		28
ROA (Z)	ASTM A370-14	%	55		66

Comments

Diameter - 12.50mm
Area - 122.7mm²
Gauge Length - 50mm

Test orientation - Longitudinal
Test location - 1/4T

Mr. M. Collier - Laboratory Director

For and on behalf of Metals Technology Testing Ltd.

Out of specification results are highlighted, where minimum figures are stated. The test results on this certificate relate only to the samples tested. This certificate is not valid unless signed by a laboratory-approved signatory. Please visit our website, www.mttesting.co.uk, to read our full terms and conditions.

This test certificate shall not be transcribed or reproduced (except in full) without written approval of the laboratory.

Doc n°:AEV-C10054

Page 1 of 1

QCD 7/8

P-02/15

CERTIFICAT DE RECEPTION 3.2 / EN 10204:2004 Inspection Certificate 3.2 / EN 10204:2004 Abnahmeprüfzeugnis 3.2 / EN 10204:2004 Inspection Number : 17/31		Numéro de document Rev 00 Document number Bescheinigungsnr. 2017-119087	Page 001 Sheet 005 Seite	 ArcelorMittal
Client Purchaser Besteller JACQUET BENELUX S.A.				
Référence client Purchase order Kaufauftrag 32760 REV 00/1-5715/1				
Projet Project Projekt Industeel Belgium Site : Rue de Châtelet 266 6030 Marchienne-au-Pont		ISO 9001 (Cert ES081397, Valid 14/09/2018) - MAQ REV 12 du 02/05/2012 ISO 9001 (Cert ES081397, Valid 14/09/2018) - QAM REV 12 of 02/05/2012		
Produit Product Erzeugnis 1071408 / 000060		Tôle(s) 80314408		
Commande / Poste Internal order Werksbestellung				
Bordereau de livraison Delivery note Lieferungsdocument				

#010 - PRODUITS LIVRES - DELIVERED PRODUCTS - GELIEFERTEN GEGENSTÄNDE			
Nuance	Grade	Werkstoff	Selon norme According to Entsprechend EN 10088-2:2014 EN 10088-2:2014 ASTM A 240/M ED 2016 ASTM A 240/M ED.2016 ASME IIA ED 2015 SA 240/M ASME IIA ED 2015 SA 240/M EN 10028-7:2016+AD2000W2+ADW10 EN 10028-7:2016+AD2000W2+ADW10 EN 10088-4:2009 EN 10088-4:2009
		X5CrNiMo17-12-2 (1.4401) X2CrNiMo17-12-2 (1.4404) UNS S31600 (316) UNS S31603 (316L) UNS S31600 (316) UNS S31603 (316L) X5CrNiMo17-12-2 (1.4401) X2CrNiMo17-12-2 (1.4404) X5CrNiMo17-12-2 (1.4401) X2CrNiMo17-12-2 (1.4404)	

Epaisseur Thickness Dicke	40.00 mm	Largeur Width Breite	2.000 mm	Longueur Length Länge	6.000 mm
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Spécification Specification Spezifikation:
 02 REV 10

Etat thermique de livraison Heat treatment state of delivery Wärmebehandlung Lieferzustand
 Hypertrempe eau (1050 °C - 0.5 min/mm) - Solution annealed and water quenched - Wasser abgeschreckt
 Procédé d'élaboration Melting process Erzeugnisart
 Electric-arc furnace - VOD - Finish n° 1 - 1D - HRAP

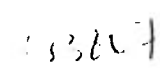
Nbre Lot Stz	N° produit Product Erzeugnis	N° de coulée Ladle nr Schmelznr.	N° de lot de contrôle Inspection lot nr Prüflos nr.	Nbre Lot Stz	N° produit Product Erzeugnis	N° de coulée Ladle nr Schmelznr.	N° de lot de contrôle Inspection lot nr Prüflos nr.
01	846402001	20131	846402.1001 / 846402.5001				

Total Total Gesamtzahl **001 SEAT**

- This supply complies with the main requirements of PED 2014/68/EU relating to the basis material regardless of the specific terms of service
 - Nace MR 0103/ISO 17945
 - Nace MR 0175/ISO 15156-3
 - No weld repair
 - Plate are free from radioactivity

1148
 06
 20060925
 EN 10088-4:2009
 Produit laminé à chaud en acier de construction
 Usages prévus: Construction de bâtiments et Génie civil
 X5CrNiMo17-12-2 (1.4401)
 X2CrNiMo17-12-2 (1.4404)

Nous certifions que les produits ci-dessus sont conformes aux prescriptions de la commande
 We hereby certify that the above mentioned products are complying with the order requirements.
 Wir bestätigen hiermit, dass die obengenannten Erzeugnisse den Bestellvorgaben entsprechen

N° JACQUET: 	 Dipl. Ing. B. Sparty		JOHAN HOUYOUNX 03/08/2017 Gestornere Commende Mill inspector Werksbeauftragte 
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CERTIFICAT DE RECEPTION 3 2 / EN 10204:2004 Inspection Certificate 3 2 / EN 10204:2004 Abnahmeprüfzeugnis 3 2 / EN 10204:2004		Numéro de document Re : 00 Document number Bescheinigungsnummer 2017-119087	Page 002 Sheet / Seite 005	 ArcelorMittal
Inspection Number : 17/31				
Client Purchaser Besteller JACQUET BENELUX S.A.				
Référence client Purchase order - Kaufauftrag 32760 REV 00/1-5715/1				
Projet Project Projekt Industeel Belgium Site : Rue de Châtelet 266 6030 Marchienne-au-Pont		ISO 9001 (Cert ES081397, Valid 14/09/2018) • MAQ REV 12 du 02/05/2012 ISO 9001 (Cert ES081397, Valid 14/09/2018) • QAM REV 12 of 02/05/2012		
Produit Product Erzeugnis Industeel Belgium		Tôle(s) 1071408 / 000060		
Commande / Poste Internal order - Werksbestellung 80314408				
Bordereau de livraison Delivery note Lieferungsdocument				

#020 - ANALYSE CHIMIQUE DE COULEE - LADLE CHEMICAL COMPOSITION - SCHMELZE CHEMISCHE ZUSAMMENSETZUNG										
	C %	Mn %	P %	S %	Si %	Cu %	Ni %	Cr %	Mo %	
Min.							10.000	16.500	2.000	
20131	0.021	1.838	0.0347	0.0029	0.234	0.335	10.015	16.599	2.007	
Max.	0.030	2.000	0.0450	0.0150	0.750	0.750	13.000	18.000	2.500	
	Nb %	Ti %	N %	Co %	B %					
Min.										
20131	0.004	0.003	0.0328	0.095	0.0018					
Max.	0.100	0.100	0.1000							

#041 - PMI - POSITIVE MATERIAL IDENTIFICATION - VERWECHSLUNGSPRÜFUNG

Non confusion de matière Positive material identification - PMI Conforme

Résultat du contrôle Examination result Prüfergebnis

Conforme aux spécifications précitées Conforming to above specifications Entspricht den vorgenannten Vorschriften

Nous certifions que les produits ci-dessus sont conformes aux prescriptions de la commande
 We hereby certify that the above mentioned products are complying with the order requirements
 Wir bestätigen hiermit, dass die obengenannten Erzeugnisse den Bestellvorgaben entsprechen

N° JACQUET:

63007



Dipl. Ing. B. Sparty



JOHAN HOUYX
 03/08/2017
 Gestionnaire Commande
 Mill inspector
 Werksbeauftragte

CERTIFICAT DE RECEPTION 3.2 / EN 10204:2004 Inspection Certificate 3.2 / EN 10204:2004 Abnahmeprüfzeugnis 3.2 / EN 10204:2004 Inspection Number : 17/31		Numéro de document Re : 00 Document number Bescheinigungsnummer 2017-119087	Page 003 Sheet / Seite 005	 ArcelorMittal
Client Purchaser / Besteller JACQUET BENELUX S.A.				
Référence client Purchase order / Kaufauftrag 32760 REV 00/1-5715/1				
Projet Project / Projekt Industeel Belgium Site : Rue de Châtelet 266 6030 Marchienne-au-Pont		ISO 9001 (Cert ES081397, Valid 14/09/2018) + MAQ REV 12 of 02/05/2012 ISO 9001 (Cert ES081397, Valid 14/09/2018) + QAM REV 12 of 02/05/2012		
Produit Product / Erzeugnis Commande / Poste Internal order - Werksbestellung Bordereau de livraison Delivery note / Lieferungsdokument		Tôle(s) 1071408 / 000060 80314408		

#072 ESSAIS MECANQUES - MECHANICAL TESTS - MECHANISCHE PRÜFUNGEN

DURETE SUR COUPON - HARDNESS ON SAMPLE - HARTE AUF COUPON

Brinell HB							HB10 Ind	HB10 Ind	HB10 Ind	HB10 Moy										
N° lot QM	Etat	Loc	Epr.	T°	Uni	Mac	Uni	Brinell	Brinell	Brinell	Brinell									
							Min													
							Max	217	217	217	217									
846402.1001	000	T3/4	PSS	20	°C			161	162	162	162									

DURETE SUR COUPON - HARDNESS ON SAMPLE - HARTE AUF COUPON

DURETE NACE MR0103 HRC < 22																				
N° lot QM	Etat	Loc	Epr.	T°	Uni	Mac														
846402.1001	000	T3/4	PSS	20	°C															

Résultat de l'essai HRC < 22

DURETE SUR COUPON - HARDNESS ON SAMPLE - HARTE AUF COUPON

NACE MR0175 / ISO 15156-3																				
N° lot QM	Etat	Loc	Epr.	T°	Uni	Mac														
846402.1001	000	T3/4	PSS	20	°C															

Résultat de l'essai HRC < 22

TRACTION A L'AMBIANTE - ROOM TEMPERATURE TENSILE TEST - ZUGVERSUCH BEI RT

Traction cylindrique							Rp 0.2 %	Rp 1 %	Rm	A L1 50	A L1 5.65V									
N° lot QM	Etat	Loc	Epr.	T°	Uni	Mac	Uni	MPa	MPa	MPa	%	%								
							Min	220	260	520	40	45								
							Max			670										
846402.1001	000	T3/4	PST	20	°C			282	322	559	5	49								

TOUGHNESS - KERBSCHLAGZÄHIGKEIT

KCV EN 10X10mm							Energ Ind	Energ Ind	Energ Ind	Energ Moy	ExLat Ind	ExLat Ind	ExLat Ind	ExLat Moy						
N° lot QM	Etat	Loc	Epr.	T°	Uni	Mac	Uni	J	J	J	J	mm	mm	mm	mm					
							Min	42	42	42	60									
							Max													
846402.1001	000	T3/4	1/4ST	20	°C			240	256	244	247	2.400	2.400	2.400	2.400					

Loc	3/4	Trois-Quart	3/4 Width	3/4 Breite																
Loc	T	Tête	Top	Kopf																
Epr. Epaisseur	1/4	Quart épaisseur	1/4 Thickness	1/4 Dicke																
Epr. Epaisseur	P	Peau	Roll'd Surface	Walzfläche																
Epr. Face	S	Supérieure	Upper face	obere																
Epr. Sens	S	Standard	Standard	Standard																

Nous certifions que les produits ci-dessus sont conformes aux prescriptions de la commande
 We hereby certify that the above mentioned products are complying with the order requirements
 Wir bestätigen hiermit, dass die oben genannten Erzeugnisse den Bestellevorgaben entsprechen

N° JACQUET: 43607	 Dipl. Ing. B. Sparty	JOHAN HOUYUUX 03/08/2017 Gestionnaire Commande Mill inspector Werkshauptvergle
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CERTIFICAT DE RECEPTION 3.2 / EN 10204 2004 Inspection Certificate 3.2 / EN 10204 2004 Abnahmeprüfzeugnis 3.2 / EN 10204 2004 Inspection Number : 17/31		Numéro de document Rv 00 Document number Bescheinigungsnummer 2017-119087		Page 004 Sheet 005 Seite		 ArcelorMittal
Client - Purchaser - Besteller JACQUET BENELUX S.A.						
Référence client - Purchase order - Kaufauftrag 32760 REV 00/1-5715/1						
Projet - Project - Projekt Industeel Belgium Site : Rue de Châtelet 266 6030 Marchienne-au-Pont				ISO 9001 (Cert ES081397, Valid 14/09/2018) - MAQ REV 12 du 02/05/2012 ISO 9001 (Cert ES081397, Valid 14/09/2018) - QAN REV 12 of 02/05/2012		
Produit - Product - Erzeugnis Commande / Poste - Internal order - Werksbestellung Bordereau de livraison - Delivery note - Lieferungsdokument				Tôle(s) 1071408 / 000060 80314408		

Epr. Sens	T	Travers - Transverse - Quer
Etat	000	Etat thermique de livraison - Heat treatment state of delivery - Wärmebehandlung Lieferzustand
Epr. Ep./Face/Sens	1/4ST	Quart épaisseur - 1/4 Thickness - 1/4 Dicke / Supérieure Upper face - obere / Travers - Transverse - Quer
Epr. Ep./Face/Sens	PSS	Peau Rolled Surface - Walzfläche / Supérieure Upper face - obere / Standard - Standard - Standard
Epr. Ep./Face/Sens	PST	Peau Rolled Surface - Walzfläche / Supérieure Upper face - obere / Travers - Transverse - Quer

#082 ESSAIS TECHNOLOGIQUES - TECHNOLOGICAL TESTS - TECHNOLOGISCHE PRÜFUNGEN

CORROSION - KORROSION - KORROSION										Sensibilisé - Sensitized - Sensibilisiert									
EN ISO 3651-2 A																			
Test description - Prüfbeschreibung																			
N° lot QM	Etat	Loc	Epr.	T°	Uni	Mac	Uni	Min	Max										
46402.5001	001	T3/4	SSS	20	°C														
Etat de l'essai										Satisfaisant selon norme									

CORROSION - KORROSION - KORROSION										Sensibilisé - Sensitized - Sensibilisiert									
ASTM A262 E																			
ASTM A262 E - ASTM A262 E																			
N° lot QM	Etat	Loc	Epr.	T°	Uni	Mac	Uni	Min	Max										
846402.5001	002	T3/4	SSS	20	°C														
Résultat de l'essai										Satisfaisant selon norme									

Loc	3/4	Trois-Quart 3/4 Width 3/4 Breite
Loc	T	Tête Top - Kopf
Epr. Epaisseur	S	Standard - Standard - Standard
Epr. Face	S	Supérieure Upper face - obere
Epr. Sens	S	Standard - Standard - Standard
Etat	001	SENSI Sensitization (From 350 °C at 220 °C/h to 700 °C (10/+10) (max. 30 min) - Down to 350 °C at 220 °C/h - 1 Cycle) SENSI
Etat	002	SENSI Sensitization (From 350 °C at 220 °C/h to 675 °C (25/+0) (max. 60 min) - Down to 350 °C at 220 °C/h - 1 Cycle) SENSI
Epr. Ep./Face/Sens	SSS	Standard - Standard - Standard / Supérieure Upper face - obere / Standard - Standard - Standard

Nous certifions que les produits ci-dessus sont conformes aux prescriptions de la commande
 We hereby certify that the above mentioned products are complying with the order requirements
 Wir bestätigen hiermit, dass die obigen genannten Erzeugnisse den Bestellschreibungen entsprechen

N° JACQUET:

03607



Dipl. Ing. B. Sparty

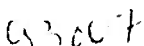


JOHAN HOUYX
 03/08/2017
 Gestionnaire Commande
 Mill Inspector
 Werksbeauftragte



CERTIFICAT DE RECEPTION 3.2 / EN 10204.2004 Inspection Certificate 3.2 / EN 10204.2004 Abnahmeprüfzeugnis 3.2 / EN 10204.2004		Numéro de document Rev 00 Document number Bescheinigungsnummer 2017-119087	Page 005 Sheet / Seite 005	 ArcelorMittal
Inspection Number : 17/31				
Client Purchaser Besteller JACQUET BENELUX S.A.	Référence client Purchase order Kaufauftrag 32760 REV 00/1-5715/1			
Projet Project Projekt Industeel Belgium Site : Rue de Châtelet 266 6030 Marchienne-au-Pont	ISO 9001 (Cert ES081397, Valid 14/09/2018) + MAQ REV 12 du 02/05/2012 ISO 9001 (Cert ES081397, Valid 14/09/2018) + QAM REV 12 of 02/05/2012			
Produit Product - Erzeugnis Commande / Poste Internal order Werksbestellung 1071408 / 000060	Tôle(s) 80314408			
Bordereau de livraison Delivery note - Lieferungsdocument				

#141 - CONTROLE US - ULTRASONIC EXAMINATION - ULTRACHALLPRÜFUNGSBESCHEINIGUNG	
Norme applicable 1 Applicable standard 1 EN 10307 S1 E1 Quadrillage 200x200mm Périphérie 100% sur 50mm	
Procédure applicable 1 Applicable procedure 1 Procédure 1568	
Résultat du contrôle Examination result Prüfergebnis Conforme aux spécifications précitées Conforming to above specifications Entspricht der vorgenannten Vorschriften	

Nous certifions que les produits ci-dessus sont conformes aux prescriptions de la commande We hereby certify that the above mentioned products are complying with the order requirements Wir bestätigen hiermit, dass die oben genannten Erzeugnisse den Bestellvorgeschritten entsprechen		
N° JACQUET: 	  Dipl. Ing. B. Sparty	 JOHAN HOUYVOUX 03/08/2017 Gestionnaire Commande Mill inspector Werksbeauftragter 

Certificat de Conformité N° EXPEDITION : E740263

La Société

Les Ateliers Jean Del'Cour
Rue de l'Expansion 29
4460 Grace-Hollogne
Belgique

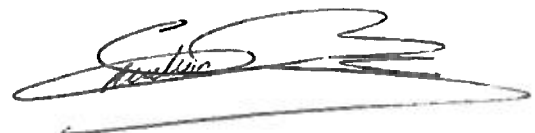
déclare que le(s) produit(s)

Client	AEV - Advanced Engineering Valves		
N° réf.	PO14540-2801		
N° OF	Désignation	N° Article	Quantité
<u>AEV - Advanced Engineering Valves</u>			
<u>PO14540-2801</u>			
C740179/001	TT BEARING 050FB300 NIT60 D38.1 L28	906984	5,00 pc
C740179/002	BT BEARING 050FB150 NIT60 D36.1 L11.5	906985	5,00 pc
C740179/003	BT BEARING C_150FB0900 NIT60 D109.7 L39	907036	6,00 pc
C740179/004	TT BEARING C_150FB0900 NIT60 D109.7 L69	907037	6,00 pc

est (sont) conforme(s) en tous points aux spécifications qui s'y rapportent et que les fournitures ont été vérifiées et soumises aux essais conformément aux conditions et exigences de la commande.

Pour les Ateliers Jean Del'Cour

Le 24-10-2017



Responsable Assurance Qualité

Client/Customer/Kunde : 0001707 AE VALVES

Commande/Order/Bestellung N° : PO16021-2838 OFFRE 397406

Poste/Item/Pos. : 013

Quantité/Quantity/Stückzahl : 240

Produit/Product/Produkt : Studbolt M24 x 100 A193 GRB7M

N° Item : P08227

N° Plan/Drawing/Plan : CONFORME NACE MR0175

Marquage/Marking/Kennzeichnung : B7M-C

Essais complémentaires ou caractéristiques après traitement thermique / complementary tests or properties after heat treatment

Valeur après revenu 720°C - refroidissement à l'air

TIGE FILETEE/STUD

DURETE / HARDNESS TEST Type= HBW

	Mini	Maxi	Moyenne
val	205	215	213

RESILIENCE AMBIANTE / IMPACT TEST ROOM TEMPERATURE T°= +20°C

	KV1	KV2	KV3	Moyenne
Eprouv./pr	110	114	121	115

TRACTION AMBIANTE / MECHANICAL PROPERTIES T°= +20°C

Rm/Mpa	Rp0.2%/Mpa	A% 4d	A% 5d	Z %
753	617	27	25	68

Attestation de conformité produit / Product conformity :

Nous déclarons que, sauf exception ou dérogation énumérées ci-après, la fourniture citée a été fabriquée conformément

aux spécifications techniques, et que toutes opérations de contrôle et essais ont été effectués, et répond

SOUS TOUS SES ASPECTS, aux spécifications particulières jointes, aux plans, ainsi qu'aux normes et règlements en vigueur.

We herewith declare that our manufacturing process does not alter the chemical and mechanical properties of raw material.

We certify that, subject to exceptions or concessions listed hereafter, the supplies detailed here were manufactured in

accordance with the technical specifications of the contract, and that all inspections and test having been completed,

the comply IN EVERY RESPECT with the relevant particular standards and regulations in force,

Ce document est complété par le(s) certificats(s)/ This document is completed by certificate(s) /

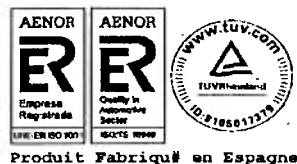
RCR 89596

sidenor

CERTIFICAT DE CONTR#LE

ISO 9001; ISO-TS 16949; ISO 14001 Y OHSAS 18001

Usine de Azkoitia



Produit Fabriqué en Espagne

CLIENT:ETABLISSEMENTS A. CATHELAIN	USINE REFERENCE:1961083
REFERENCE:N°X 28234	COMMANDEMENT:302733-6
ARTICLE:B59 02190000	MASTER REFERENCE:222422
	LAMINE:11.10.2017

PRODUIT DEMANDE
A193B7 ROND BARRES TOURNE TREMPÉ + REVENUE 21,94-0,084/+0mm ISO h10 4.050/4.150mm COURANTE
ECOUTEUR
REMISE:0080601755
FARDEAU (KG):4452
PAQUET:3
BARRES:371

NORME
ASME SA193-SA193M/SECTION II, PART A - . . . 2015; ASME SA320-SA320M/SECTION II, PART A 2013 . . . 2013 /
ASTM A193-A193M 16 01.03.2016; ASTM A29-A29M 2015 01.11.2015; ASTM A320-A320M 2015 01.05.2015 /
ASTM A962/A962M 14 01.05.2014; ASTM E381 -17 01.06.2017; CATHELAIN FO.002.C-PR-AC.001 C 27.04.2016 /
EN 10204 :2004 OCT. 2004 3.1; EN 10269 / . . . 2013; EN DIRECTIVA 2014/68/UE - 15.05.2014 /
ISO 898-1 5 . . . 2013; ISO 9001 2008/COR.1:2009 2009

ANALYSE CHIMIQUE DE LA COULEE	U:% N# COULEE:194389
C Mn Si P S Cr Ni Mo Cu B	
Min. 0,380 0,750 0,150	0,900 0,150
Max. 0,450 0,900 0,350 0,025 0,025 1,100 0,250 0,250 0,350 0,0030	
Cer. 0,400 0,890 0,320 0,012 0,003 1,000 0,200 0,223 0,190 0,0003	

PROPRIETES MECHANIQUES DE LIVRAISON
Temperature du: (1):revenu 650#C /
PROPRIETES MECHANIQUES DE LIVRAISON
Emplacement de l'eprouvette:coeur; Sens Traction:longitudinal
Rm(860/1.060MPa):913MPa; Re(Rp(0,2%) >=730MPa):Rp(0,2%) 817MPa; A(5d >=14%):5d 19,5%; Z(>=52%):64,4%
Sens de l'eprouvette de Resilience:longitudinal; Classe de l'eprouvette de Resilience(KV2):KV2
Temperatute de l'essai de Resilience(20#C):20#C; K(1):101J; K(2):104J; K(3):107J
K (moyenne) (>=50J):104J
Sens de l'eprouvette de Resilience:longitudinal; Classe de l'eprouvette de Resilience(ISOV):ISOV
Temperatute de l'essai de Resilience(-40#C):-40#C; K(1):80J; K(2):85J; K(3):86J
K (moyenne) (>=40J):83,67J
Sens de l'eprouvette de Resilience:longitudinal; Classe de l'eprouvette de Resilience(ISOV):ISOV
Temperatute de l'essai de Resilience(-101#C):-101#C; K(1):44J; K(2):44J; K(3):44J
K (moyenne) (>=27J):44J
Sens Traction:longitudinal
Rm(860/1.060MPa):951MPa; Re(Rp(0,2%) >=730MPa):Rp(0,2%) 852MPa; A(4d >=16%):4d 22,5%; Z(>=52%):65,5%
Sens de l'eprouvette de Resilience:longitudinal; Classe de l'eprouvette de Resilience(CHARPY-V):CHARPY-V
Temperatute de l'essai de Resilience(-101-1,5/1,5#C):-101#C; K(1):37J; K(2):39J; K(3):41J
K (moyenne) (>=27J):39J; Durete# surface(250/321HB):278/290HB /
Sens de l'eprouvette de Resilience:longitudinal; Classe de l'eprouvette de Resilience(KV2):KV2
Temperatute de l'essai de Resilience(20#C):20#C; K(1):73J; K(2):75J; K(3):76J
K (moyenne) (>=50J):74,67J
Sens de l'eprouvette de Resilience:longitudinal; Classe de l'eprouvette de Resilience(ISOV):ISOV
Temperatute de l'essai de Resilience(-40#C):-40#C; K(1):91J; K(2):95J; K(3):98J
K (moyenne) (>=40J):94,67J

AUTRES ESSAIS
Norme(ASTM E381-1701.06.2017); macroattaque # 1'#cide(1):S 1; macroattaque # 1'#cide(2):R 1
macroattaque # 1'#cide(3):C 1

TECHNOLOGIE ET QUALITE CERTIFIE QUE LE PRODUIT EST D'ACCORD AVEC LES SPECIFIC	SIGNE:
APPROUVE:Manuel Divila Piris	
DATE:27.11.2017	Page 1 de 2



Sidenor

CERTIFICAT DE CONTR#LE

ISO 9001: ISO-TS 16949; ISO 14001 Y OHSAS 18001

Usine de Azkoitia



Produit Fabriqué en Espagne

CLIENT:ETABLISSEMENTS A. CATHELAIN	USINE REFERENCE:1961083
REFERENCE:N#X 28234	COMMANDEMENT:302733-6
ARTICLE:B59 02190000	MASTER REFERENCE:222422
	LAMINE:11.10.2017

ESSAIS NON DESTRUCTIFS
CONTROLE ULTRASONIQUE 100%: BIEN /

INFORMATION SUPPLEMENTAIRE
A193 B7/ SA193 B7/ A320 L7/ SA 320 L7/ EN 10269/ CL 8.8 ISO 898-1

Cet Acier est coulé et laboré 100% en Espagne selon le processus de fabrication par four à arc électrique et ensuite dégazage sous vide.

L'acier produit n'est pas exposé au Mercure, ni à tout autre alliage liquide à température ambiante, durant les processus de fabrication ou lors de sa détention dans les usines de Sidenor. /

La matière n'est pas radioactive (<0,1Bq/g, référence Co-60). /

L'acier n'a subi aucune réparation par soudure. /

Contrôle 100% anti mélange réalisé. /

TECHNOLOGIE ET QUALITE CERTIFIEE QUE LE PRODUIT EST D'ACCORD AVEC LES SPECIFICATIONS

APPROUVE:Manuel Divila Piris

DATE:27.11.2017

SIGNE:

Page 2 de 2



sidenor

MILL TEST CERTIFICATE

ISO 9001; ISO-TS 16949; ISO 14001 Y OHSAS 18001

Azkoitia Plant



Product Made in Spain

CUSTOMER:ETABLISSEMENTS A. CATHELAINE	WORKS REFERENCE:1961083
REFERENCE:N°X 28234	SALES ORDER:302733-6
PRODUCT NR:B59 02190000	HEAT NUMBER:194389
MASTER REFERENCE:222422	ROLLED:11.10.2017

REQUIRED PRODUCT			
A193B7 ROUND BARS TURNED QUENCHING+TEMPER 21,94-0,084/+0mm ISO h10 4.050/4.150mm NORMAL			
EXPEDITION	DELIVERY:0080601755	WEIGHT (KG):4.452	BUNDLES:3
			UNITS:371

MADE ACCORDING TO	
ASME SA193-SA193M/SECTION II, PART A - . . . 2015; ASME SA320-SA320M/SECTION II, PART A 2013 . . . 2013	
ASTM A193-A193M 16 01.03.2016; ASTM A29-A29M 2015 01.11.2015; ASTM A320-A320M 2015 01.05.2015	
ASTM A962/A962M 14 01.05.2014; ASTM E381 -17 01.06.2017; CATHELAINE F0.002.C-PR-AC.001 C 27.04.2016	
EN 10204 :2004 OCT. 2004 3.1; EN 10269 - . . . 2013; EN DIRECTIVA 2014/68/UE - 15.05.2014	
ISO 899-1 5 . . . 2013; ISO 9001 2008/COR.1:2009 2009	

CHEMICAL ANALYSIS OF HEAT									
	C	Mn	Si	P	S	Cr	Ni	Mo	U: % HEAT NUMBER:194389
Man.	0,380	0,750	0,150			0,900		0,150	
Max.	0,450	0,900	0,350	0,025	0,025	1,100	0,250	0,250	0,350 0,0030
cer.	0,400	0,890	0,320	0,012	0,003	1,000	0,200	0,223	0,190 0,0003

MECHANICAL PROPERTIES AS SUPPLIED (CONDITIONS)	
Temperature of: (1):Tempering 650#C	
MECHANICAL PROPERTIES AS SUPPLIED (TEST)	
Specimen Test location:Nucleus; Tensile direction:Longitudinal	
Ts(860/1.060MPa):913MPa; Ys(Rp(0,2%))>=730MPa;Rp(0,2%) 817MPa; El.(5d >=14%):5d 19,5%	
Z(>=52%):64,4%	
Notch impact direction:Longitudinal; Notch Impact sample type(KV2):KV2; Notch Impact Temp.(20#C):20#C	
K(1):101J; K(2):104J; K(3):107J; K (average)(>=50J):104J	
Notch impact direction:Longitudinal; Notch Impact sample type(ISOV):ISOV	
Notch Impact Temp.(-40#C):-40#C; K(1):80J; K(2):85J; K(3):86J; K (average)(>=40J):83,67J	
Notch impact direction:Longitudinal; Notch Impact sample type(ISOV):ISOV	
Notch Impact Temp.(-101#C):-101#C; K(1):44J; K(2):44J; K(3):44J; K (average)(>=27J):44J	
Tensile direction:Longitudinal	
Ts(860/1.060MPa):951MPa; Ys(Rp(0,2%))>=730MPa;Rp(0,2%) 852MPa; El.(4d >=16%):4d 22,5%	
Z(>=52%):65,5%	
Notch impact direction:Longitudinal; Notch Impact sample type(CHARPY-V):CHARPY-V	
Notch Impact Temp.(-101-1,5/1,5#C):-101#C; K(1):37J; K(2):39J; K(3):41J; K (average)(>=27J):39J	
Surface hardness(250/321HB):278/290HB	
Notch impact direction:Longitudinal; Notch Impact sample type(KV2):KV2; Notch Impact Temp.(20#C):20#C	
K(1):73J; K(2):75J; K(3):76J; K (average)(>=50J):74,67J	
Notch impact direction:Longitudinal; Notch Impact sample type(ISOV):ISOV	
Notch Impact Temp.(-40#C):-40#C; K(1):91J; K(2):95J; K(3):98J; K (average)(>=40J):94,67J	

ADDITIONAL TESTS	
Standard(ASTM E381-1701.06.2017); macroetching(1):S 1; macroetching(2):R 1; macroetching(3):C 1	

NON DESTRUCTIVE TESTS	
ULTRASONIC INSPECTION 100% : O.K.	

ADDITIONAL INFORMATION	
A193 B7/ SA193 B7/ A320 L7/ SA 320 L7/ EN 10269/ CL 8.8 ISO 898-1	

Material melted and manufactured 100% in Spain through the Electric Arc Furnace and Vacuum Degassing route. Steel not exposed to Mercury, or to any other metal alloy that is liquid, at ambient

TECHNOLOGY & QUALITY CERTIFIES THAT THE PRODUCT FULL FILLS THE ORDER#	
APPROVED BY:Manuel D#vila Piris	SIGN:
DATE:27.11.2017	Page 1 of 2



Sidenor

MILL TEST CERTIFICATE

ISO 9001; ISO-TS 16949; ISO 14001 Y OHSAS 18001

Azkoitia Plant



Product Made in Spain

CUSTOMER:ETABLISSEMENTS A. CATHELAIN	WORKS REFERENCE:1961083
REFERENCE:N°X 28234	SALES ORDER:302733-6
PRODUCT NR:B59 02190000	HEAT NUMBER:194389
MASTER REFERENCE:222422	ROLLED:11.10.2017

processing or while in Sidenor's possession. ✓

The Product is free from radioactivity (<0,1Bq/g concerning Co-60). ✓

Steel products were not repaired by welding. ✓

100% anti mix test performed. ✓

TECHNOLOGY & QUALITY CERTIFIES THAT THE PRODUCT FULL FILLS THE ORDER#

APPROVED BY:Manuel D#vila Piris

SIGN:

DATE:27.11.2017

Page 2 of 2



Client/Customer/Kunde : 0001707 AE VALVES

Commande/Order/Bestellung N° : PO16021-2838 OFFRE 397406

Poste/Item/Pos. : 015

Quantité/Quantity/Stückzahl : 40

Produit/Product/Produkt : Studbolt M20 x 95 A193 GRB7M

N° Item : P07704

N° Plan/Drawing/Plan : CONFORME NACE MR0175

Marquage/Marking/Kennzeichnung : B7M-C

Essais complémentaires ou caractéristiques après traitement thermique / complementary tests or properties after heat treatment

Valeur après revenu 720°C - refroidissement à l'air

TIGE FILETEE/STUD

DURETE / HARDNESS TEST Type= HBW

	Mini	Maxi	Moyenne
va	205	212	209

RESILIENCE AMBIANTE / IMPACT TEST ROOM TEMPERATURE T°= +20°C

	KV1	KV2	KV3	Moyenne
Eprouv./pr	109	113	120	114

TRACTION AMBIANTE / MECHANICAL PROPERTIES T°= +20°C

Rm/Mpa	Rp0.2%/Mpa	A% 4d	A% 5d	Z %
742	608	27	25	68

Attestation de conformité produit / Product conformity :

Nous déclarons que, sauf exception ou dérogation énumérées ci-après, la fourniture citée a été fabriquée conformément aux spécifications techniques, et que toutes opérations de contrôle et essais ont été effectués, et répond

SOUS TOUS SES ASPECTS, aux spécifications particulières jointes, aux plans, ainsi qu'aux normes et règlements en vigueur.

We herewith declare that our manufacturing process does not alter the chemical and mechanical properties of raw material.

We certify that, subject to exceptions or concessions listed hereafter, the supplies detailed here were manufactured in

accordance with the technical specifications of the contract, and that all inspections and test having been completed,

they comply IN EVERY RESPECT with the relevant particular standards and regulations in force,

Ce document est complété par le(s) certificats(s) / This document is completed by certificate(s) /

RCR 89340

Sidenor

CERTIFICAT DE CONTRÔLE

ISO 9001; ISO-TS 16949; ISO 14001 Y OHSAS 18001

Usine de Vitoria

SIDENOR ACEROS ESPECIALES S. L.
Portal De Gamarra, 22 01080 Vitoria (Alava)
Tlf. 945164678 FAX 945164752
www.sidenor.com

Produit Fabriqué en Espagne

CLIENT:ETABLISSEMENTS A. CATHELAIN	USINE REFERENCE:1954565
REFERENCE:N° 28234	COMMANDEMENT:302733-5
ARTICLE:B59 01820000	N° COULEE:193931
	MASTER REFERENCE:235431
	LAMINE:05.07.2017

PRODUIT DEMANDE
A193B7 ROND BARRES ETIPE TREM+REV+DISTENT 18,28-0,084/+0mm ISO h10 4.050/4.150mm COURANTE
ECOUTEUR
REMISE:0080595209 FARDEAU(KG):15886
PAQUET:9
BARRES:1878

NORME
ASME SA193-SA193M/SECTION II, PART A - . . . 2015;/ASME SA320-SA320M/SECTION II, PART A 2013 . . . 2013
ASTM A193-A193M 16 01.03.2016; ASTM A29-A29M 2015 01.11.2015;/ASTM A320-A320M 2015 01.05.2015
ASTM A962/A962M 14 01.05.2014; ASTM E381 2001 R2006; CATHELAIN FO.002.C-PR-AC.001 C 27.04.2016 /
EN 10204 :2004 OCT. 2004 3.1; EN 10269/- . . . 2013; EN DIRECTIVA 2014/68/UE - 15.05.2014 /
ISO 898-1 5 . . . 2013; ISO 9001 2008/COR.1:2009 2009

ANALYSE CHIMIQUE DE LA COULEE	U: % N° COULEE:193931
C Mn Si P S Cr Ni Mo Cu B	
Min. 0,380 0,750 0,150	0,900 0,150
Max. 0,450 0,900 0,350 0,025 0,025 1,100 0,250 0,250 0,350 0,0030	
Cer. 0,400/ 0,770/ 0,260/ 0,009/ 0,003/ 1,050/ 0,200 0,204/ 0,110 0,0003 /	

PROPRIETES MECHANIQUES DE LIVRAISON
Temperature du:(1):Trempé 860°C; Temp:(1):45Minutes; Réfroidissement:(1):huile
Temperature du:(2):revenu 660°C; Temp:(2):150Minutes; Réfroidissement:(2):air
Temperature du:(3):relaxation de tensions résiduels 605°C; Temp:(3):120Minutes
PROPRIETES MECHANIQUES DE LIVRAISON
Emplacement de l'éprouvette:coeur; Sens Traction:longitudinal
Rm(860/1.060MPa):958MPa; Re(Rp(0,2%))>=730MPa:Rp(0,2%) 864MPa; A(5d >=14%):5d 17,5%; Z(>=52%):63%
Sens de l'éprouvette de Resilience:longitudinal; Classe de l'éprouvette de Resilience(KV(2)):KV(2)
Temperatute de l'essai de Resilience(20°C):20°C; K(1):107J; K(2):110J; K(3):107J /
K (moyenne) (>=50J):108J; Dureté surface (250/321HB):307HB /
Sens Traction:longitudinal
Rm(860/1.060MPa):928MPa; Re(Rp(0,2%))>=730MPa:Rp(0,2%) 827MPa; A(4d >=16%):4d 18,7%; Z(>=52%):64%
Sens de l'éprouvette de Resilience:longitudinal; Classe de l'éprouvette de Resilience(ISOV):ISOV
Temperatute de l'essai de Resilience(-40°C):-40°C; K(1):69J; K(2):72J; K(3):69J; K (moyenne) (>=40J):70J /
Sens de l'éprouvette de Resilience:longitudinal; Classe de l'éprouvette de Resilience(ISOV):ISOV
Temperatute de l'essai de Resilience(-101°C):-101°C; K(1):28J; K(2):31J; K(3):28J /
K (moyenne) (>=27J):29J /
Sens de l'éprouvette de Resilience:longitudinal; Classe de l'éprouvette de Resilience(KV(2)):KV(2)
Temperatute de l'essai de Resilience(-20°C):-20°C; K(1):84J; K(2):87J; K(3):83J
K (moyenne) (>=27J):84,67J

AUTRES ESSAIS
Norme(ASTM E381 2001 R2006); macroattaque à l'acide(1):S 1; macroattaque à l'acide(2):R 1
macroattaque à l'acide(3):C 1

INFORMATION SUPPLEMENTAIRE
Matériel d'accord avec A193 B7/ SA193 B7/ A320 L7/ SA 320 L7/ EN 10269/ CL 8.8 ISO 898-1

Cet Acier est coulé et élaboré à 100% en Espagne selon le processus de fabrication par four à arc électrique et ensuite dégazage sous vide.

L'acier produit n'est pas exposé au Mercure, ni a tout autre alliage liquide à température ambiante, durant les processus de fabrication ou lors de sa détention dans les usines de Sidenor.

L'acier est exempt d'Uranium ou de n'importe quelle autre contamination radioactive néfaste.

L'acier n'a subi aucune réparation par soudure. /

TECHNOLOGIE ET QUALITE CERTIFIEE QUE LE PRODUIT EST D'ACCORD AVEC LES SPECIFICATIONS DE LA COMMANDE

APPROUVE:IGNACIO URBIETA LAVIADA

SIGNE:

DATE:29.09.2017

Page 1 de 1

REF.:4001604000000

Contrôleur des certificats de qualité

Sidenor

MILL TEST CERTIFICATE

ISO 9001; ISO-TS 16949; ISO 14001 Y OHSAS 18001



Vitoria Plant

SIDENOR ACEROS ESPECIALES S. L.
 Portal De Camarra, 22 01080 Vitoria (Alava)
 TLF. 945164678 FAX 945164752
 www.sidenor.com

Product Made in Spain

CUSTOMER: ETABLISSEMENTS A. CATHELAIN	WORKS REFERENCE: 1954565
REFERENCE: N° 28234	SALES ORDER: 302733-5
PRODUCT NR: B59 01820000	HEAT NUMBER: 193931
MASTER REFERENCE: 235431	ROLLED: 05.07.2017

REQUIRED PRODUCT
A193B7 ROUND BARS COLD DRAWN Q+T+STRESS RELIEVED 18,28-0,084/+0mm ISO h10 4.050/4.150mm NORMAL
EXPEDITION
DELIVERY: 0080595209 WEIGHT (KG): 15.886 BUNDLES: 9 UNITS: 1.878

MADE ACCORDING TO
ASME SA193-SA193M/SECTION II, PART A - . . . 2015; ASME SA320-SA320M/SECTION II, PART A 2013 . . . 2013
ASTM A193-A193M 16 01.03.2016; ASTM A29-A29M 2015 01.11.2015; ASTM A320-A320M 2015 01.05.2015
ASTM A962/A962M 14 01.05.2014; ASTM E381 2001 R2006; CATHELAIN FO.002.C-PR-AC.001 C 27.04.2016
EN 10204 :2004 OCT. 2004 3.1; EN 10269 - . . . 2013; EN DIRECTIVA 2014/68/UE - 15.05.2014
ISO 898-1 5 . . . 2013; ISO 9001 2008/COR.1:2009 2009

CHEMICAL ANALYSIS OF HEAT	U: % HEAT NUMBER: 193931
C Mn Si P S Cr Ni Mo Cu B	
min. 0,380 0,750 0,150	0,900 0,150
Max. 0,450 0,900 0,350 0,025 0,025 1,100 0,250 0,250 0,350 0,0030	
Cer. 0,400 0,770 0,260 0,009 0,003 1,050 0,200 0,204 0,110 0,0003	

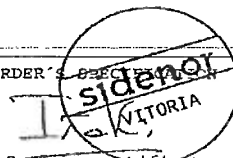
MECHANICAL PROPERTIES AS SUPPLIED (CONDITIONS)
Temperature of: (1): Quenching 860°C; Time: (1): 45 Minutes; Cooling: (1): Oil
Temperature of: (2): Tempering 660°C; Time: (2): 150 Minutes; Cooling: (2): Air
Temperature of: (3): Stress Relieved 605°C; Time: (3): 120 Minutes
MECHANICAL PROPERTIES AS SUPPLIED (TEST)
Specimen Test location: Nucleus; Tensile direction: Longitudinal
Ts (860/1.060MPa): 958MPa; Ys (Rp(0,2%) >= 730MPa): Rp(0,2%) 864MPa; El. (5d >= 14%): 5d 17,5%; Z (>= 52%): 63%
Notch impact direction: Longitudinal; Notch Impact sample type (KV(2)): KV(2)
Notch Impact Temp. (20°C): 20°C; K(1): 107J; K(2): 110J; K(3): 107J; K (average) (>= 50J): 108J
Surface hardness (250/321HB): 307HB
Tensile direction: Longitudinal
Ts (860/1.060MPa): 928MPa; Ys (Rp(0,2%) >= 730MPa): Rp(0,2%) 827MPa; El. (4d >= 16%): 4d 18,7%; Z (>= 52%): 64%
Notch impact direction: Longitudinal; Notch Impact sample type (ISOV): ISOV
Notch Impact Temp. (-40°C): -40°C; K(1): 69J; K(2): 72J; K(3): 69J; K (average) (>= 40J): 70J
Notch impact direction: Longitudinal; Notch Impact sample type (ISOV): ISOV
Notch Impact Temp. (-101°C): -101°C; K(1): 28J; K(2): 31J; K(3): 28J; K (average) (>= 27J): 29J
Notch impact direction: Longitudinal; Notch Impact sample type (KV(2)): KV(2)
Notch Impact Temp. (-20°C): -20°C; K(1): 84J; K(2): 87J; K(3): 83J; K (average) (>= 27J): 84,67J

ADDITIONAL TESTS
Standard (ASTM E381 2001 R2006); macroetching (1): S 1; macroetching (2): R 1; macroetching (3): C 1

ADDITIONAL INFORMATION
Material according to A193 B7/ SA193 B7/ A320 L7/ SA 320 L7/ EN 10269/ CL 8.8 ISO 898-1

Material melted and manufactured 100% in Spain through the Electric Arc Furnace and Vacuum Degassing route.
 Steel not exposed to Mercury, or to any other metal alloy that is liquid, at ambient temperatures during processing or while in Sidenor's possession.
 Steel is free from Uranium or any other harmful radioactive contamination.
 Steel products were not repaired by welding.

TECHNOLOGY & QUALITY CERTIFIES THAT THE PRODUCT FULL FILLS THE ORDER'S SPECIFICATION	
APPROVED BY:IGNACIO URBIETA LAVIADA	SIGN: 
DATE:29.09.2017	Page 1 of 1
REF.:4001604000000	Analyst of quality certificates



Client/Customer/Kunde : 0001707 AE VALVES

Commande/Order/Bestellung N° : PO16021-2838 OFFRE 397406

Poste/Item/Pos. : 014

Quantité/Quantity/Stückzahl : 240

Produit/Product/Produkt : Nut H=D M24 A194 Gr2HM

N° Item : P05567

N° Plan/Drawing/Plan : CONFORME NACE MR0175

Marquage/Marking/Kennzeichnung : 2HM-C

Essais complémentaires ou caractéristiques après traitement thermique / complementary tests or properties after heat treatment

Valeur après revenu 720°C - refroidissement à l'air

ECROU/NUT

CHARGE D'EPREUVE / PROOF LOAD TEST

Charge Epr

Cr me

DURETE / HARDNESS TEST Type= HBW

	Mini	Maxi	Moyenne
valeur	209	221	214

DURETE HB APRES TT 24H / HB HARDNESS AFTER TEMPERING 24H

Relevée

201

Attestation de conformité produit / Product conformity :

Nous déclarons que, sauf exception ou dérogation énumérées ci-après, la fourniture citée a été fabriquée conformément aux spécifications techniques, et que toutes opérations de contrôle et essais ont été effectués, et répond

SOUS TOUS SES ASPECTS, aux spécifications particulières jointes, aux plans, ainsi qu'aux normes et règlements en vigueur.

We herewith declare that our manufacturing process does not alter the chemical and mechanical properties of raw material.

We certify that, subject to exceptions or concessions listed hereafter, the supplies detailed here were manufactured in accordance with the technical specifications of the contract, and that all inspections and test having been completed,

th ply IN EVERY RESPECT with the relevant particular standards and regulations in force,

Ce document est complété par le(s) certificats(s)/ This document is completed by certificate(s) /

RCR 86495

		Werkzeugnis EN 10204 Test report 2.2 WZ-Nr.: 92319	
Lippische Eisenindustrie GmbH Alter Weg 37 32760 Detmold Tel. 05231 / 564.0 Fax. 05231 / 564.147 email : info@lippische-eisen.de web : www.lippische-eisen.de		Abnahmeprüfzeugnis EN 10204 Inspection certificate 3.1	
EISENINDUSTRIE GMBH		ASTM-A-194-13 ASME Ila SA-194-Ed. 11a	
Besteller : Purchaser : Cathelain A. Decolletage - Mecanique Petrole-Nucleaire F - 59670 Cassel	300301 Auftrags-Nr. : Purchase No. : 24526 Lieferdatum : Shipping date : 03.02.2016 Rechnung Nr. : Invoice No. : 533070	Herstellung : Manufacturing : Erzeugnisart des Stahles : Melting method of steel : E Prüfbedingung : Conditions of test :	QM System Zertifiziert nach DIN EN ISO 9001:2008 Zertifikat Nr. 08 100 959 170 QM System Zertifiziert nach Richtlinie 97/23/EG EN 764-5 Abschnitt 4 TÜV Rheinland 01.202.641/Q-12 0002
Stück Pieces 14870	Artikelbezeichnung Description Hexagon Nuts H = D M 24	Kennzeichnung Marking LE-2H	1* 2* 3* 4* 580 287-298 425400 85010 NUT
1* = Prüflastversuch N Proof load test 2* = Aufwärtversuch 6 % Widening test 3* = Vickershärte HV 30 Vickers hardness HV 30 4* = Anlasstemperatur °C Annealing temperature		1* 2* 3* 4* 5* 6* 7* 8* 9* 10* 11* 12* 13* 14* 15* 16* 17* 18* 19* 20* 21* 22* 23* 24* 25* 26* 27* 28* 29* 30* 31* 32* 33* 34* 35* 36* 37* 38* 39* 40* 41* 42* 43* 44* 45* 46* 47* 48* 49* 50* 51* 52* 53* 54* 55* 56* 57* 58* 59* 60* 61* 62* 63* 64* 65* 66* 67* 68* 69* 70* 71* 72* 73* 74* 75* 76* 77* 78* 79* 80* 81* 82* 83* 84* 85* 86* 87* 88* 89* 90* 91* 92* 93* 94* 95* 96* 97* 98* 99* 100*	
Besondere Anforderungen : Special demands : Samples of these nuts have been subjected for 24 hours to a temperature of 540°C as prescribes ASTM-A-194 Result : 282 - 289 HB		Die Prüfungsergebnisse erfüllen die Anforderungen aus der Bestellung. The test results are in compliance with the requirements of the order. Datum : 08.02.2016 Date :	
Lippische Eisenindustrie GmbH Martin Mallok Abnahmebeauftragter Manufacturer authorised inspection representative		Das Zeugnis wurde per EDV erstellt und ist auch ohne Unterschrift gültig. This certificate was generated by data system and must not be signed for validity.	

Client/Customer/Kunde : 0001707 AE VALVES

Commande/Order/Bestellung N° : PO16021-2838 OFFRE 397406

Poste/Item/Pos. : 016

Quantité/Quantity/Stückzahl : 40

Produit/Product/Produkt : Nut H=D M20 A194 Gr2HM

N° Item : P05545

N° Plan/Drawing/Plan : CONFORME NACE MR0175

Marquage/Marking/Kennzeichnung : marq.écrou

Attestation de conformité produit / Product conformity :

Nous déclarons que, sauf exception ou dérogation énumérées ci-après, la fourniture citée a été fabriquée conformément aux spécifications techniques, et que toutes opérations de contrôle et essais ont été effectués, et répond SOUS TOUS SES ASPECTS, aux spécifications particulières jointes, aux plans, ainsi qu'aux normes et règlements en vigueur.

We certify that, subject to exceptions or concessions listed hereafter, the supplies detailed here were manufactured in accordance with the technical specifications of the contract, and that all inspections and test having been completed, the supply IN EVERY RESPECT with the relevant particular standards and regulations in force,

Ce document est complété par le(s) certificats(s) / This document is completed by certificate(s) /

RCR 84916



**Johan Smit Fasteners Holland**

Mandenmakersstraat 4
 3334KE Zwijndrecht Netherlands
 31(0)78 6230088
 31(0)78 6230089
 INSPECTION TO EN10204 3.1

* C E R T I F I C A T E *
 * O F T E S T *

To: A. CATHELAIN S.A.
 69 ROUTE DE ST. OMER
 59670 BAVINCHOVE / CASSEL
 59670 BAVINCHOVE CASSEL FRANCE

Customer P/O # 22842

Our Order # 002503

Line	Qty	UOM	Description	LOT
1	1000	EA	M20-2.5 100% HARDNESS HEX NUT A194 2HM DIN934 H=D ASTM Issue date LE Tempering temp: 1.5 HOURS AT 1256 F Sample hardness 95 HRb AFT 24 HRS AT 1000 F 100% Hardness 204-214 HB Marking: JS 2HM_79	1579
NUT				
Heat No. IVB23		Hardness 94-96 HRb	Proofload lbf 228 KN	Phosphorus .019
Quenched 1580F		No. of tests 5	Macroetch S2-R2-C3	Sulfur .009
				Carbon .45
				Manganese .77
				Silicon .22

We certify that the material or the fasteners, or both, were manufactured, sampled, tested, and inspected in accordance with the specification listed above and any supplementary requirements or other requirements designated in the purchase/sales order and was found to meet those requirements.

Date: 03/25/15

Johan Smit Fasteners Holland
 hereby certifies this document was electronically produced
 and is responsible for the content of this certification

Only the original certificate is provided with a green background stating our full company name. Any recipient of a copy of this certificate should ensure himself that is a true and accurate reproduction of the original.

AE VALVES

Rue de Gelée, 20

Petit-Rechain, 4800

Belgium

Valve Pressure Test

(Ambient Temperature)

Date:	27/04/2018	Procedure N°	AEV STD	Body/Bonnet MAT:	WCB
Customer:	HIVE INNOVATIONS Inc., c/o SGOVAN Engineering Inc	Pressure Transducer N°	Range	Validity Date From:	To:
Customer Ref:	PO 2017.473 - 0029	086	0/1000	10/04/2018	10/07/2018
AEV Ref:	3598-5128				

NB: Manometer min 2% precision validity maximum 3 months

PRESSURE TEST BASED ON API598 / ASME B16.34

AEV Serial N°	Valve Type	Size	Class	Ass DWG N°	Qty
C17921	C_SPSBB150FB0600FL_FL_WCB_ACTU-TCC-S	6"	600	C17921	1.000

TEST TYPE	Fluid Type	Pressure		Duration (Sec)	Allowed leak rate	Result A/B	
		Barg	psi				
Shell Test (Half open)	WATER	153.1	2219.95	300.0	0	0.0	
Seat test (High pressure) Preferential	WATER	88.66	1285.57	60.0	12.0	0.0	OK
Seat test (High pressure) Reverse	NA	0.0	0.0	0.0	0.0	0.0	OK
Seat test (Low pressure) Preferential	N2	5	72.5	60.0	24.0	0.0	OK
Seat test (Low pressure) Reverse	NA	0	0	0.0	0.0	0.0	OK
Back Seat Test	NA	0.0	0.0	0.0	0.0	0.0	

OPERATING TYPE	Actuator Set Pressure (barg)	Opening Time (Sec)	Torque CL Nm (if required)	Closing time (Sec)	Torque OP Nm (if required)	Satisfactory
Actuated	6.2	48.0	0.0	12.0	0.0	YES

Comments: 1 complete operation on 100% of the valves (close - open) to be performed

Valves TAG N°:	109-XV-90120			
Actuator TAG:	109-XV-90120			
Decision	ACCEPTABLE	YES	Operator Name	Signature
			YD	
			Customer Name or Third Party	Signature / stamp
				

Test pressure-measuring devices shall be accurate to at least +/- 2% of full scale range. If pressure gauges are used in lieu of pressure transducers, they shall be selected such that the test pressure is indicated within 20% and 80% of the full-scale value.

DOC 25 - Official Report	Version du 19 Novembre 2015	Révision 3
(not valid if not hand signed) This printed version is not kept up to date.		