

**GALPER, INC.**

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TEST/CERTIFICATE

EN 10204

INTERNAL JOB

181045**3.1**

AT CERTIFICATE N

DATE

008325

11/27/2018

YOUR P O

4549

DATE

08/27/2018

ITEM	DESCRIPTION	QUANTITY	B/P	MATERIAL	HEAT N°	FORGING ORIGIN	#
001/001	3" 900 BL RF A105 B1 F	3	A	ASTM A/SA105N 18ed	154945N/02	U.S.A.	A
001/001	3" 900 BL RF A105 B1 F	2	B	ASTM A/SA105N 18ed	154949N/02	U.S.A.	B
002/002	4" 1500 BL RJ A105 B1 F	5	B	ASTM A/SA105N 18ed	162257N/02	U.S.A.	C
003/003	4" 2500 BL RF A105 B1 F	9	A	ASTM A/SA105N 18ed	151367N/02	U.S.A.	D

CHEMICAL ANALYSIS

#	C %	MN %	SI %	P %	S %	CR %	NI %	MO %	CU %	V %	SN %	AL %	NB %	TI %	N %	B %	CA %	CE %
A	0.150	1.200	0.210	0.013	0.002	0.120	0.110	0.038	0.300	0.019		0.024	0.004	0.002		0.0003	0.0006	0.41
A C	0.140	1.180	0.230	0.010	0.002	0.130	0.120	0.048	0.310	0.014		0.033	0.004	0.002		0.0003	0.0006	0.40
B	0.150	1.200	0.200	0.009	0.002	0.120	0.100	0.036	0.280	0.021		0.026	0.005	0.002		0.0003	0.0008	0.41
B C	0.140	1.220	0.220	0.006	0.002	0.130	0.090	0.026	0.270	0.016		0.045	0.005	0.002		0.0003	0.0008	0.40
C	0.140	1.210	0.170	0.012	0.006	0.140	0.090	0.038	0.240	0.021		0.027	0.002	0.002		0.0003	0.0008	0.40
C C	0.130	1.230	0.150	0.015	0.003	0.150	0.100	0.028	0.250	0.016		0.037	0.002	0.002		0.0003	0.0008	0.39
D	0.150	1.200	0.180	0.011	0.001	0.140	0.090	0.034	0.210	0.031		0.026	0.006	0.002		0.0003	0.0009	0.41
D C	0.152	1.190	0.190	0.010	0.004	0.130	0.090	0.027	0.210	0.029		0.027	0.001	0.001		0.0002	0.0006	0.40

NOTES

CE=LONG FORMULA

C = PRODUCT ANALYSIS

MECHANICAL PROPERTIES

#	TENSILE									CHARPY TEST			
	TYPE	Ø DIAMETER mm.	AREA mm²	LENGTH mm.	TEMP F	TENSILE PSI	YIELD PSI	ELONG %	REDUCT %	TYPE	TEMP.	VALUES	HARDNESS HB
A	S	12.50	122.70	50.00	68	70,000	36,000	22.0	30.0				Max. 197
A	O	12.50	122.70	50.00	68	73,577	51,700	38.2	76.1				147-144
B	S	12.50	122.70	50.00	68	70,000	36,000	22.0	30.0				Max. 197
B	O	12.50	122.70	50.00	68	78,100	49,071	27.4	66.6				162-159
C	S	12.50	122.70	50.00	68	70,000	36,000	22.0	30.0				Max. 197
C	O	12.50	122.70	50.00	68	76,800	40,700	36.5	75.2				142-142
D	S	12.50	122.70	50.00	68	70,000	36,000	22.0	30.0				Max. 197
D	O	12.50	122.70	50.00	68	74,400	52,200	38.0	75.6				144-144

NOTES

O = OBTAINED
S = STANDARD

HEAT TREATMENT

A	Normalized at 900 dgr.C for 1 h.-Cooling from 900 dgr.C in still air
B	Normalized at 900 dgr.C for 1 h.-Cooling from 900 dgr.C in still air
C	Normalized at 900 dgr.C for 2 h.-Cooling from 900 dgr.C in still air
D	Normalized at 900 dgr.C for 3.1/2 h.-Cooling from 900 dgr.C in still air

GENERAL NOTES

ROUGHNESS

F = STOCK FINISH 125-250 microinch
F = FINISH 63 MICROINCH MAX

STANDARD

B1 = ASME B16.5 INCH STD

NOTES

Material I.A.W. Nace MR-0175/ISO 15156-2-15 & NACE MR0103

TRADE MARK / LOGO



Stamped on product

INT. INSPECT DATE

11/27/2018

INT. INSPECTOR

D. RUZICKA

INSPECTION AUTHORITY

*Dion Ruzicka***GALPER, INC**

An ISO 9001/2015 certified company.
Certification issued by:
Lloyds register quality assurance
Certificate ID No. 10051127

ITEMS USED TO PRODUCE GALPER, INC. PRODUCTS ARE 100% SMELTED IN USA, MEXICO OR WESTERN EUROPE