



METALFAR

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MATERIAL TEST DEPARTMENT
SALA PROVE ED ANALISI MATERIALI

COMPANY SANTRADE LTD
WITH QUALITY MANAGEMENT P O BOX 4263
SYSTEM CERTIFIED BY DNV 6002 LUCERNE - CH
= ISO 9001 : 2000 =

INSPECTION CERTIFICATE EN 10204/3.1

CERTIFICATO DI COLLAUDO

N.: 387/ 31/01/2006
INVOICE / FATTURA: 315/ 30/01/2006
S.: 44373
DEL. NOTE / BOLLA: 494/ 30/01/2006

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HEAT CODE COD. COLATA	HEAT COLATA	ITEM POS.	YOUR P.O. VS. ORDINE	OUR REFERENCE NS. ORDINE	QUANTITY QUANTITÀ	DESCRIPTION DESCRIZIONE		DIM. ACCORDANCE TO DIM. IN ACCORDO A			VISUAL & DIMENSIONAL VISIVO E DIMENSIONALE		
540106		0002	P0056-05	05004140 0022	300	S/O 150 RP 1.1/2"	F316/L	ASME/ANSI B16.5			SATISFACTORY		
179872		0021	P0056-05	05004140 0041	40	BLIND 150 RP 3"	F316/L	ASME/ANSI B16.5			SATISFACTORY		
870709		0003	P0056-05	05004140 0023	500	S/O 150 RP 2"	F316/L	ASME/ANSI B16.5			SATISFACTORY		
505416		0004	P0056-05	05004140 0024	200	S/O 150 RP 3"	F316/L	ASME/ANSI B16.5			SATISFACTORY		
834739		0008	P0056-05	05004140 0028	50	W/N 150 RP 1/2" 40S	F316/L	ASME/ANSI B16.5			SATISFACTORY		
505416		0012	P0056-05	05004140 0032	40	W/N 150 RP 2" 40S	F316/L	ASME/ANSI B16.5			SATISFACTORY		

HEAT CODE COD. COLATA	HEAT COLATA	ITEM POS.	MATERIAL MATERIALE	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %	Nb %	N %	Al %	C.E. %	ORIGIN ORIGINE
540106		0002	ASTM A182 F316/F316L	0.250	0.550	1.290	0.025	0.029	16.630	11.080	2.020	0.000	0.000	0.000	0.000	0.024	0.000	4.933	EUROPE
179872		0021	ASTM A182 F316/F316L	0.020	0.400	1.920	0.010	0.031	16.600	10.130	2.050	0.000	0.000	0.000	0.000	0.044	0.000	4.745	EUROPE
870709		0003	ASTM A182 F316/F316L	0.019	0.500	1.630	0.025	0.030	16.500	10.250	2.030	0.000	0.000	0.000	0.000	0.032	0.000	4.680	EUROPE
505416		0004	ASTM A182 F316/F316L	0.024	0.500	1.560	0.008	0.025	16.770	10.800	2.090	0.000	0.000	0.000	0.000	0.089	0.000	4.776	EUROPE
834739		0008	ASTM A182 F316/F316L	0.030	0.440	1.670	0.026	0.028	16.700	10.800	2.010	0.000	0.000	0.000	0.000	0.025	0.000	4.717	EUROPE
505416		0012	ASTM A182 F316/F316L	0.024	0.500	1.560	0.008	0.025	16.770	10.800	2.090	0.000	0.000	0.000	0.000	0.089	0.000	4.776	EUROPE

HEAT CODE COD. COLATA	HEAT COLATA	ITEM POS.	TEST SPECIMEN		YIELD POINT Sneramento N/mm ² > 0.2%	TENSILE STRENGTH Rottura N/mm ² >	ELONGATION Allungamento % >	REDUCTION OF AREA Contrazione % >	HARDNESS Durezza Hb	BEND TEST Piegatura	FLATTENING TEST Schacciatura	IMPACT TEST - Resilienza Joule / cm ²					SHAPE FORMA 1 - 0 - 2 - 1	S	W	X	YIELD POINT SNERAMENTO N/mm ² > 0.2%	OUR. RE.
			nr. PROVETTA SECTION Sezione	mm LENGTH Lunghezza								U.M.	TYPE TIPO (Ø x l) mm	° C	1	2						
540106		0002	126.60	50.80	298.0	572	72.0	86.0	170-174	0.0	0.0	V	20	157	159	159	1				0.0	
179872		0021	126.60	50.80	264.0	569	74.0	85.0	174-178	0.0	0.0	V	20	153	160	159	1				0.0	
870709		0003	126.60	50.80	298.0	564	76.0	85.0	170-174	0.0	0.0	V	20	150	161	159	1				0.0	
505416		0004	126.60	50.80	276.0	584	69.0	79.0	171-174	0.0	0.0	V	20	159	151	159	1				0.0	
834739		0008	126.60	50.80	346.0	696	56.0	70.0	176-180	0.0	0.0	V	20	152	158	158	1				0	
505416		0012	126.60	50.80	276.0	584	69.0	79.0	171-174	0.0	0.0	V	20	159	151	159	1				0.0	

HEAT CODE COD. COLATA	HEAT COLATA	ITEM POS.	MATERIAL IN ACCORDANCE TO MATERIALE IN ACCORDO A	HEAT TREATMENT TRATTAMENTO TERMICO
540106		0002	ASTM A 182/A 182N - 02 ASME SA 182/SA 182N-801	SOLUTION TREAT AT 1050 C - QUENCHED IN WATER ELECTRIC FURNACE
179872		0021	ASTM A 182/A 182N - 02 ASME SA 182/SA 182N-801	SOLUTION TREAT AT 1050 C - QUENCHED IN WATER ELECTRIC FURNACE
870709		0003	ASTM A 182/A 182N - 02 ASME SA 182/SA 182N-801	SOLUTION TREAT AT 1050 C - QUENCHED IN WATER ELECTRIC FURNACE
505416		0004	ASTM A 182/A 182N - 02 ASME SA 182/SA 182N-801	SOLUTION TREAT AT 1050 C - QUENCHED IN WATER ELECTRIC FURNACE
834739		0008	ASTM A 182/A 182N - 02 ASME SA 182/SA 182N-801	SOLUTION TREAT AT 1050 C - QUENCHED IN WATER ELECTRIC FURNACE
505416		0012	ASTM A 182/A 182N - 02 ASME SA 182/SA 182N-801	SOLUTION TREAT AT 1050 C - QUENCHED IN WATER ELECTRIC FURNACE

NOTE: ROUGHNESS 125 - 250 AARH. HARDNESS IN ACC. WITH NACE MRO175, SECT.2 PART.1
I.C. TEST PERFORMED IN ACC. WITH ASTM/ASME SA262
TYPE "E" RESULT SATISFACTORY. P.M.I.: SATISFACTORY.
MATERIAL IN ACCORD. TO ASME SECTION II PART A ED. JULY 1, 2004

QUALITY CONTROL DEPARTMENT UFFICIO CONTROLLO QUALITÀ	INSPECTION AUTHORITY ENTE UFFICIALE COLLAUDO	MANUFACTURER'S SYMBOL MARCHIO PRODUZIONE
BRACCHI FLAVIO		MFF