

ECOFOX Srl

PROGETTO DEFINITIVO

**REALIZZAZIONE NUOVO SEALINE E CAMPO BOE
PER LO SCARICO OLI VEGETALI GREZZI DA NAVI
CISTERNA A VASTO (CH)**

Allegato 7

SPECIFICHE DI LINEA 1102 **(movimentazione acqua)**

Commessa n.: 336
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SPECIFICATIONS OF FIRE FIGHTING LINE 4D.1102

CONNECTORS SW-BW		ASTM A 105 3000 e 6000		PRESSURE TEMPERATURE RATINGS										DESIGN BASIC ASSUMPTIONS AND HYDRAULIC TEST OF SINGL LINE SEE LINE LIST	
CONNECTORS SC		ASTM A 105 3000		-29 ÷ 38		50		100		17.7		WELDING SPECIFICATIONS		WELDING CONTROL (3)	
REDUCING NIPPLES		API 5L GrB SMLS		19.6		19.2		17.7		CORROSION OVER-THICKNESS 1					
NIPPLES		API 5L GrB SMLS		XS XS XS XS		XS XS XS XS		XS XS XS XS		XS XS XS XS		WELDING SPECIFICATIONS		WELDING CONTROL (3)	
NIPPLES THICKNESS		API 5L GrB SMLS		XS XS XS XS		XS XS XS XS		XS XS XS XS		XS XS XS XS					
DIAMETER DN" (inches)		1/2 3/4 1 1 1/2		2 3 4 6 8		10 12 14 16 18 20		21 24 27 30 33 36		39 42 45 48 51 54		WELDING SPECIFICATIONS		WELDING CONTROL (3)	
THICKNESS (mm)		3.73 3.91 4.55 5.08		3.91 3.96 4.37 4.78		6.35 6.35 6.35 6.35		7.92 7.92 7.92 7.92		6.35 6.35 6.35 6.35					
MATERIAL		API 5L GrB SMLS		API 5L GrB SMLS		API 5L GrB SMLS		API 5L GrB SMLS		API 5L GrB SMLS		WELDING SPECIFICATIONS		WELDING CONTROL (3)	
MANUFACTURE SPECIFICATION		API 5L GrB SMLS		API 5L GrB SMLS		API 5L GrB SMLS		API 5L GrB SMLS		API 5L GrB SMLS					
WN		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF		WELDING SPECIFICATIONS		WELDING CONTROL (3)	
SW		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF					
SC		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF		WELDING SPECIFICATIONS		WELDING CONTROL (3)	
SO		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF					
LJ		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF		WELDING SPECIFICATIONS		WELDING CONTROL (3)	
BL		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF					
SEALS		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF		WELDING SPECIFICATIONS		WELDING CONTROL (3)	
TENSION RODS AND NUTS		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF		ASTM A 105 600 RF					
1		VS - 215 - C30 - SW		VS - 215 - C30 - SW		VS - 215 - C30 - SW		VS - 215 - C30 - SW		VS - 215 - C30 - SW		WELDING SPECIFICATIONS		WELDING CONTROL (3)	
2		VS - 215 - C30 - SC		VS - 215 - C30 - SC		VS - 215 - C30 - SC		VS - 215 - C30 - SC		VS - 215 - C30 - SC					
3		VB - 615 - F32 - SC		VB - 615 - F32 - SC		VB - 615 - F32 - SC		VB - 615 - F32 - SC		VB - 615 - F32 - SC		WELDING SPECIFICATIONS		WELDING CONTROL (3)	
4		VF=VALV. A FARFALLA		VF=VALV. A FARFALLA		VF=VALV. A FARFALLA		VF=VALV. A FARFALLA		VF=VALV. A FARFALLA					
5		VD - 415 - C30 - SW		VD - 415 - C30 - SW		VD - 415 - C30 - SW		VD - 415 - C30 - SW		VD - 415 - C30 - SW		WELDING SPECIFICATIONS		WELDING CONTROL (3)	
6		VD - 311 - A01 - 150 RF		VD - 311 - A01 - 150 RF		VD - 311 - A01 - 150 RF		VD - 311 - A01 - 150 RF		VD - 311 - A01 - 150 RF					
7		VDR - 711 - A01 - 150 RF		VDR - 711 - A01 - 150 RF		VDR - 711 - A01 - 150 RF		VDR - 711 - A01 - 150 RF		VDR - 711 - A01 - 150 RF		WELDING SPECIFICATIONS		WELDING CONTROL (3)	
8		VDR - 815 - A01 - SW		VDR - 815 - A01 - SW		VDR - 815 - A01 - SW		VDR - 815 - A01 - SW		VDR - 815 - A01 - SW					
9		VDR - 815 - A01 - SW		VDR - 815 - A01 - SW		VDR - 815 - A01 - SW		VDR - 815 - A01 - SW		VDR - 815 - A01 - SW		WELDING SPECIFICATIONS		WELDING CONTROL (3)	
10		VDR - 815 - A01 - SW		VDR - 815 - A01 - SW		VDR - 815 - A01 - SW		VDR - 815 - A01 - SW		VDR - 815 - A01 - SW					
11		VDR - 815 - A01 - SW		VDR - 815 - A01 - SW		VDR - 815 - A01 - SW		VDR - 815 - A01 - SW		VDR - 815 - A01 - SW		WELDING SPECIFICATIONS		WELDING CONTROL (3)	
CURVES 90° e 45°		ASTM A 234 WPB		ASTM A 234 WPB		ASTM A 234 WPB		ASTM A 234 WPB		ASTM A 234 WPB					
T AND T RED. PIECES		ASTM A 234 WPB		ASTM A 234 WPB		ASTM A 234 WPB		ASTM A 234 WPB		ASTM A 234 WPB		WELDING SPECIFICATIONS		WELDING CONTROL (3)	
CONCENTRIC REDUCTIONS		ASTM A 234 WPB		ASTM A 234 WPB		ASTM A 234 WPB		ASTM A 234 WPB		ASTM A 234 WPB					
ECCENTRIC REDUCTIONS		ASTM A 234 WPB		ASTM A 234 WPB		ASTM A 234 WPB		ASTM A 234 WPB		ASTM A 234 WPB		WELDING SPECIFICATIONS		WELDING CONTROL (3)	
PIPE BASES		ASTM A 234 WPB		ASTM A 234 WPB		ASTM A 234 WPB		ASTM A 234 WPB		ASTM A 234 WPB					
COLLARS FOR LJ		ASTM A 234 WPB		ASTM A 234 WPB		ASTM A 234 WPB		ASTM A 234 WPB		ASTM A 234 WPB		WELDING SPECIFICATIONS		WELDING CONTROL (3)	
INTERSECTIONS (see page 6)		ASTM A 234 WPB		ASTM A 234 WPB		ASTM A 234 WPB		ASTM A 234 WPB		ASTM A 234 WPB					
VALVES FOR		POS		POS		POS		POS		POS		WELDING SPECIFICATIONS		WELDING CONTROL (3)	
BREATHERS		1		1		1		1		1					
DRAINAGES		1		1		1		1		1		WELDING SPECIFICATIONS		WELDING CONTROL (3)	
PRESSURE INTAKES		3		3		3		3		3					

NOTES: (1) For underground lines, use a bituminous outer cover, excepting special different requirements
(2) To be used for special requirements if necessary
(3) Control extended to the whole circumference on 10% of radiographed joints

GENERAL WARNING For pieces with welded (or to be welded) parts it's compulsory to observe following carbon limits

	C % max	C eq. % max
PIPES AND PIPE FITTINGS	0.23 C	0.45 C eq.
MELTED AND FORGED PARTS	0.23 C	

SPECIFICATIONS OF FIRE FIGHTING LINE 4D.1102

DN"	THICKNESS (mm)		PIPE		FLANGES			SEALS		TENSION RODS WITH NUTS			DN" PIPES-FLANGES-SEALS
	WITHOUT COVER NON WELDED (SMLS)	WITH COVER NON WELDED (SMLS)	WITHOUT COVER NON WELDED (SMLS)	WITH COVER NON WELDED (SMLS)	WN	*SW	SO	*BL	12 A.29	SIMPLE CONNECTION: SEALS ONLY	D x L	n.TENS.RODS	
1/2	3.73	034	3224YYY0030	3224YYY0380	32Y11111	322YY411	1323YY1111	1323YY4111	77121YY290	3426YYY200	1/2 x 85	4	1/2
3/4	3.91	044			40	41		78	314	0832	5/8 x 90	4	3/4
1	4.55	054			42	44		79	324	0842	5/8 x 95	4	1
1 1/2	5.08	074			44			81	344	1152	3/4 x 110	4	1 1/2
2	3.91	083		32240830830	32044111		3233211111	3238211111	351	0822	5/8 x 85	4	2
3	3.96	104			421		34	84	371	0842	5/8 x 95	4	3
4	4.37	156			439		36	86	391	0842	5/8 x 95	8	4
6	4.78	207			465		38	88	411	1132	3/4 x 100	8	6
8	6.35	231			102		39	89	421	1152	3/4 x 110	8	8
10	6.35	256			115		40	90	431	1462	7/8 x 120	12	10
12	6.35	281			127		41	91	441	1462	7/8 x 120	12	12
14	7.92	305			140		42	92	451	1822	1 x 135	12	14
16	7.92	329			151		43	93	461	1832	1 x 140	16	16
			WELDED (SAW)										
18	6.35	351		3234YYY4830	161		44	94	471	2672	11/8 x 150	16	18
20	6.35	376			175		45	95	481	2692	11/8 x 160	20	20

BUTT WELDING REDUCTION FITTINGS (BW)																
DN"	THICKNESS (mm)	CURVES		T PIECES	PIPE BASES	DN"	D _{e1} x D _{e2}		S ₁ x S ₂		T-REDUCTION PIECES		CONCENTRIC REDUCTIONS		ECCENTRIC REDUCTIONS	
		90°	45°				NON WELDED (SMLS)	WITH WELDING (W)	W	SMLS	W	SMLS	W	SMLS	W	
2	3.91	083	0839	083	083	2	2 x 3/4	3.91 x 3.91	3.91 x 3.91			0204		0204		
3	3.96	104	1049	104	104	3	2 X 1 1/2	3.91 x 5.08	3.91 x 5.08	33540C6110		0304		0304		
4	4.37	156	1569	156	156	4	3 x 1 1/2	3.96 x 5.08	3.96 x 5.08			0406		0406		
6	4.78	207	2079	207	207	6	3 x 2	3.96 x 3.91	3.96 x 3.91			0515		0515		
8	6.35	231	2319	231	231	8	4 x 2	4.37 x 3.91	4.37 x 3.91			0603		0603		
10	6.35	256	2569	256	256	10	4 x 3	4.37 x 3.96	4.37 x 3.96			0817		0822		
12	6.35	281	2819	281	281	12	6 x 3	4.78 x 3.96	4.78 x 3.96	1324		0916		0922		
14	7.92	305	3059	305	305	14	6 x 4	4.78 x 4.37	4.78 x 4.37	1421		1323		1323		
16	7.92	329	3299	329	329	16	8 x 4	6.35 x 4.37	6.35 x 4.37	1626		1421		1429		
18	6.35	351	3519	351	351	18	8 x 6	6.35 x 4.78	6.35 x 4.78	1805		1626		1629		
20	6.35	376	3769	376	376	20	10 x 4	6.35 x 4.37	6.35 x 4.37	1924		1805		1805		
							10 x 6	6.35 x 4.78	6.35 x 4.78	2104		1924		1924		
							10 x 8	6.35 x 6.35	6.35 x 6.35	2202		2104		2104		
							12 x 6	6.35 x 4.78	6.35 x 4.78	2403		2202		2202		
18	6.35	351	3519	351	351	18	12 x 8	6.35 x 6.35	6.35 x 6.35	2503		2403		2403		
20	6.35	376	3769	376	376	20	12 x 10	6.35 x 6.35	6.35 x 6.35	2603		2503		2503		
							14 x 8	7.92 x 6.35	7.92 x 6.35	2804		2603		2603		
							14 x 10	7.92 x 6.35	7.92 x 6.35	2902		2804		2804		
							16 x 10	7.92 x 6.35	7.92 x 6.35	3004		2902		2902		
							16 x 12	7.92 x 6.35	7.92 x 6.35	3404		3004		3004		
							16 x 14	7.92 x 7.92	7.92 x 7.92	3503		3304		3304		
							18 x 12	6.35 x 6.35	6.35 x 6.35			3404		3404		
							18 x 14	6.35 x 7.92	6.35 x 7.92			3503		3503		
							18 x 16	6.35 x 7.92	6.35 x 7.92			3800		3800		
							20 x 14	6.35 x 7.92	6.35 x 7.92			33553800770		33553800770		
							20 x 16	6.35 x 7.92	6.35 x 7.92			3914		3914		
												4014		4014		
												4422		4422		
												4524		4524		

NOTES * DN" 1/2 + 1 1/2 = 600 CLASS, TENSION RODS AND SEALS ACCORDING TO THE CLASS

SPECIFICATIONS OF FIRE FIGHTING LINE 4D.1102

DN" OFFTAKES FOR MANIFOLDS	ELBOLETS INSERTS FOR 90° CURVE L.R. POCKET SHAPED TO HEAT (SW)	LATROLETS 45° INSERTS	NIPOLETS		NIPOLETS		DN" OFFTAKES FOR MANIFOLDS
			SMOOTH AND FLAT END	STRAIGHT INSERTS "PE" TYPE	STRAIGHT INSERTS "BW" TYPE BEVELED END		
1/2 x 1 1/2	506	666	028	028	528	1/2 x 1 1/2	
3/4 x 1 1/2	516	696	088	088	588	3/4 x 1 1/2	
1 x 1 1/2	526	856	158	158	658	1 x 1 1/2	
1/2 x 2	506	666	028	028	528	1/2 x 2	
3/4 x 2	516	706	088	088	588	3/4 x 2	
1 x 2	526	726	168	168	668	1 x 2	
1 1/2 x 2	536	756	---	---	---	1 1/2 x 2	
1/2 x 3	506	676	038	038	538	1/2 x 3	
3/4 x 3	516	706	098	098	598	3/4 x 3	
1 x 3	526	736	178	178	678	1 x 3	
1 1/2 x 3	536	766	238	238	738	1 1/2 x 3	
1/2 x 4	506	676	038	038	538	1/2 x 4	
3/4 x 4	516	706	098	098	598	3/4 x 4	
1 x 4	526	736	178	178	678	1 x 4	
1 1/2 x 4	536	766	248	248	748	1 1/2 x 4	
1/2 x 6	506	676	038	038	538	1/2 x 6	
3/4 x 6	516	716	098	098	598	3/4 x 6	
1 x 6	526	746	178	178	678	1 x 6	
1 1/2 x 6	536	776	258	258	758	1 1/2 x 6	
1/2 x 8	506	676	048	048	548	1/2 x 8	
3/4 x 8	516	716	098	098	598	3/4 x 8	
1 x 8	526	746	178	178	678	1 x 8	
1 1/2 x 8	536	776	258	258	758	1 1/2 x 8	
1/2 x 10	506	676	048	048	548	1/2 x 10	
3/4 x 10	516	716	098	098	598	3/4 x 10	
1 x 10	526	746	178	178	678	1 x 10	
1 1/2 x 10	536	776	268	268	768	1 1/2 x 10	
1/2 x 12	506	676	048	048	548	1/2 x 12	
3/4 x 12	516	716	098	098	598	3/4 x 12	
1 x 12	526	746	188	188	688	1 x 12	
1 1/2 x 12	536	776	268	268	768	1 1/2 x 12	
1/2 x 14	506	---	048	048	548	1/2 x 14	
3/4 x 14	516	---	098	098	598	3/4 x 14	
1 x 14	526	---	188	188	688	1 x 14	
1 1/2 x 14	536	---	268	268	768	1 1/2 x 14	
1/2 x 16	506	---	048	048	548	1/2 x 16	
3/4 x 16	516	---	098	098	598	3/4 x 16	
1 x 16	526	---	188	188	688	1 x 16	
1 1/2 x 16	536	---	268	268	768	1 1/2 x 16	
1/2 x 18	506	---	048	048	548	1/2 x 18	
3/4 x 18	516	---	098	098	598	3/4 x 18	
1 x 18	526	---	188	188	688	1 x 18	
1 1/2 x 18	536	---	268	268	768	1 1/2 x 18	
1/2 x 20	506	---	048	048	548	1/2 x 20	
3/4 x 20	516	---	098	098	598	3/4 x 20	
1 x 20	526	---	188	188	688	1 x 20	
1 1/2 x 20	536	---	268	268	768	1 1/2 x 20	

SPECIFICATIONS OF FIRE FIGHTING LINE 4D.1102

FORGED PIPE FITTINGS										
DN"	NIPPLES THICK. (mm)	90° ELBOWS	45° ELBOWS	T - PIECES	COUPLINGS	F. THREAD PLUGS	NIPPLES B TYPE TO WELD. x NPT. THREAD		DN"	
		POCKET SHAPED TO BE WELDED (SW)						L=100 mm		L=150 mm
1/2	3.73	003	019	053	203	3360YY4110	338333YY030	17	18	1/2
3/4	3.91	004	020	054	204	3358YY6110	338333YY030	35	36	3/4
1	4.55	005	021	055	205	3358YY6110	338333YY030	53	54	1
1 1/2	5.08	007	023	057	207	3358YY6110	338333YY030	71	72	1 1/2

FORGED REDUCTION PIPE FITTINGS						
DN ₁ x DN ₂	NIPPLES Thick. mm S ₁ x S ₂	REDUCTION NIPPLES			DN ₁ x DN ₂	
		B-TYPE SALD. x FIL.	C. TYPE	T-PIECES	COUPLINGS	
			WELD	POCKET SHAPED TO BE WELDED (SW)		
3/4 x 1/2	3.91 x 3.73	23	23	113	313	3/4 x 1/2
1 x 1/2	4.55 x 3.73	35	35	118	318	1 x 1/2
1 x 3/4	4.55 x 3.91	41	41	119	319	1 x 3/4
1 1/2 x 1/2	5.08 x 3.73	47	47		330	1 1/2 x 1/2
1 1/2 x 3/4	5.08 x 3.91	53	53		331	1 1/2 x 3/4
1 1/2 x 1	5.08 x 4.55	59	59		332	1 1/2 x 1

SPECIFICATIONS OF FIRE FIGHTING LINE 4D.1102

DN"	VALVES										
	GATE	DISC	CHECK	GATE	BALL	BUTTERFLY					
	POCKET SHAPED TO WELD (SW)						THREADED (SC) NPT				
	VS-215-C30	VD-415-C30	VDR-815-A01	VS-215-C30	VB-615-F32	-----	40121530XX0	40121530XX0	40161532XX0	-----	-----
1/2	530	530	530	030	030	-----	530	030	030	-----	
3/4	540	540	540	040	040	-----	540	040	040	-----	
1	550	550	550	050	050	-----	550	050	050	-----	
1 1/2	560	560	560	060	060	-----	560	060	060	-----	
	FLANGED RF 150										
	VS-111-A01	VD-311-A01	VDR-711-A01	-----	VB-511-F32	VF-7116.31	40111101XX0	40671101XX0	40151132XX0	4017982XX31	
2	320	320	320	-----	320	01	320	320	320	01	
3	340	340	340	-----	340	02	340	340	340	02	
4	350	350	350	-----	350	03	350	350	350	03	
6	370	370	370	-----	370	04	370	370	370	04	
8	380	380	380	-----	380	05	380	380	380	05	
10	390	-----	390	-----	390	06	-----	390	VB-511-G42	06	
									40151142XX0		
12	400	-----	400	-----	400	07	400	400	400	07	
14	410	-----	410	-----	410	08	410	410	410	08	
16	420	-----	420	-----	420	09	420	420	420	09	
18	430	-----	430	-----	430	-----	-----	-----	-----	-----	
20	440	-----	440	-----	440	-----	-----	-----	-----	-----	

TYPE A 02

TYPE B 11

