

## GROUP AIR LIQUIDE WELDING ISAF GROUP

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for GMAW (Gas Metal Arc Welding)

WIRE ROD SPECIFICATION

1ST01A 38/1

: 2 Date : 02/12/2014

TYPE: Carbon steel for wire rod 3Si1 (SG2)

Applicable international standards

ISO 14341 : 3 Si1

AWS A5.18: ER 70 S-6

The Supplier shall keep confidential and do not disclose to any third party any and all written or oral information, material, documents and data, whether of a technical or commercial nature, however related to AIR LIQUIDE WELDING and particularly, but not limited to, any details, technical specification (including this one) and characteristics, measures, prices, terms and conditions of sale, of the supplied products.

	CHEMICAL CO	MPOSITION						
	Min %	Max %	Typical %	OBJECT This specification refers to a raw material and/or a component used in the manufacturing of welding consumables, applied for welding of high quality steels, for the construction of bridges, ships, boilers and vessels and in general for metal works. The supplier commits himselfs to deliver products in conformity				
	required	required	value	with the present enecification or	nd to apply for their pr	piler commits nimselfs to deliver products in roduction the highest technical standards a	available	
С	0,060	0,080	0,070	SCOPE 0, 06-0,0			· · · · · · · · · · · · · · · · · · ·	
Mn	1,40	1,50	1,45			properties of the product and relevant deli	ivery conditions	
Si	0,80	0,90		PACKAGINGO - 0,9 Coil tied with 4 straps or 4 wire r	S N			
Р		0,020		Special requirements : see Anne	ex 1			
S		0,020	V	IDENTIFICATION	1			
Ni		0,100		On each coil, two metallic or plas	stic labels will be prop	perly tied with at least the following		
Cr		0,100		informations: manufacturer's nar nominal diameter of the rod; sup		ntification number; diameter; grade; net we specification code.	eight;	
Mo		0,030	<b>/</b>	Each coil must be traceable.				
Cu		0,040	>008max	TIL MIII test certificate according to EN 10204 (3.1 type). must report. ♥				
Al		0,010	>0,02 max					
V		0,020	V					
Ti		0,015	V	The supplier shall attach the Saf	ne delivery note.	delivered product.		
N		0,0070	70,000 mai	TRACEABILITY / REQUIREMENTS:  a) The supplier is obliged to inform plant purchasing department about:  - possible changes in physical/chemical caracteristics of the product:  - origin of the product is changed (different production plant)  b) Minimum Quantity per batch: 100 tons (—)				
0		0,0150	V					
Nb		0,010	V					
Ca		0,0015	/					
В		0,0010	./					
Ti+Zr		0,100	~					
As		0,020	. /					
Sn		0,015	Y					
			./					
Pb		0,0100	V					
Fe		the rest	L	Regarding standard EN 10221 for surface defects, class D must be guaranted.				
MECHANICAL PROPERTIES  Surface must be clean: drops of oil or grease are not allowed.  Wire rod must be without rust (including "sea oxide")								
Min % Max % Typical %				MECHANICAL PROPERTIES				
	required	required	value	Values to be declared on the certificates, not compulsory				
Rm (N/mm2)	470	550 ✓	500	aim 530 max				
Z (%)	77% 🗸							
	OTHER PRO	PERTIES						
		Min %	Max %					
82000		required	required					
Oxide Scale (% by weight): 0,3 V		0,6		Nominal Ø		5.50 mm 🗸		
800-900.nm			DIMENSIONS		Tolerance ±0.20			
Coil Dimensions [ cm ]: ID min:		OD max:	[ mm ]	Variation from cylindric shape:				
Con Dimensions [ cm ]. 850 mm		1350 mm EN 10108A		(difference between lowest and highest		≤0.32 mm		
Coil W	eight [ kgs ]:	1,90 tons√	2,70 tons v		diameter, m	easured in one section)		
Issued by:	Carlo Ballard	ini	Verified by	Michele Bagozzi		Approved by Bruno Led	uey	
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Date:	02/12/2014		Date:	02/12/2014		Date: 02/12/2014		
Date:	02/12/2014		Date:	02/12/2014		Date: 02/12/2014		
				02/12/2014			no 2	
	Special agre		h:	02/12/2014		see Annex		
	Special agre	oved supplie	h:	02/12/2014		see Annex see Annex	no. 3	
	Special agre	oved supplie	h:			see Annex	no. 3	
	Special agre	oved supplie	h:	02/12/2014 SUPPLIER ACC	CEPTANCE	see Annex see Annex	no. 3	
	Special agre List of appro Revision inc	oved supplied	h:		CEPTANCE Name	see Annex see Annex see Annex	no. 3	
	Special agre List of appro Revision inc	oved supplie	h:	SUPPLIER ACC	No. of the last of	see Annex see Annex	no. 3 no. 4	
	Special agre List of appro Revision inc	oved supplied	h:	SUPPLIER ACC	No. of the last of	see Annex see Annex see Annex	no. 3 no. 4	
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ACCEPTED	Special agre List of appro Revision inc BY:	oved supplied lex : Company	n: ers:	SUPPLIER ACC	Name	see Annex see Annex see Annex	no. 3 no. 4 Date	