



WELDING CONSUMABLE CERTIFICATE

Certificate No.: 848327-4099570-001_____

Report No.: KO4099570_____

Port of: KOBE, JAPAN_____

Date: 22 JUNE 2020_____

THIS IS TO CERTIFY

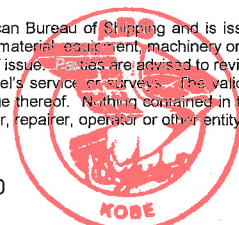
THAT THE UNDERSIGNED SURVEYOR TO THIS BUREAU DID, AT THE REQUEST OF KOBE STEEL, LTD. FUKUCHIYAMA PLANT, JAPAN, ATTEND THEIR PLANT AT FUKUCHIYAMA & FUJIWSAWA, JAPAN, ON THE 21ST DAY OF JANUARY, 2020 AND ON SUBSEQUENT DATES, IN ORDER TO CARRY OUT A PLANT SURVEY OF FACILITIES AND ASSOCIATED QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES AND TO WITNESS AND REPORT ON THE ANNUAL APPROVAL TESTING OF WELDING CONSUMABLES; AND,

THAT THE FACILITY IS CONSIDERED CAPABLE OF PROVIDING AN ACCEPTABLE UNIFORM PRODUCT, AND THAT EACH WELDING CONSUMABLE LISTED BELOW WAS FOUND IN COMPLIANCE WITH THE SPECIFICATION INDICATED AND IS ELIGIBLE TO BE PLACED ON THIS BUREAU'S APPROVED WELDING CONSUMABLES LIST IN THE GAS METAL ARC WELDING INCLUDING MIG/TIG WELDING SECTION:

TRADE NAME	SPECIFICATION	GRADE OR CLASS	SHIELDING GAS	POSITION	CURRENT/ POLARITY	SIZE
MG-50	ABS	3SA, 3YSA	C1	F, H, V-Down	DCEP	1.2-1.4 mm
		3SA, 3YSA	C1	F, H	DCEP	1.6
MG-50T	ABS	3SA, 3YSA	C1	All, V-Down	DCEP	0.9-1.4
		3SA, 3YSA	C1	F, H	DCEP	1.6
MG-50T	ABS	3SA, 3YSA	M21	All	DCEP	0.9-1.2
MG-S80	**	**	M21	F	DCEP	1.2-1.6
**Manufacturer's guaranteed minimum properties; Y.S. 690 N/mm ² , T.S. 780 N/mm ² , El. 14 %, CVN 35 J at minus 40 Cen. Deg. And Manufacturer's chemical composition of wire: C: 0.12 % max, Mn: 1.1-1.6 %, Si: 0.3-0.6 %, S: 0.03% max, P: 0.03% max, Ni: 2.4-3.0 %, Mo: 0.3-0.7 %, Cr: 0.1-0.4%						
MG-S88A	ABS	4YQ690SA** H5	M21	All	DCEP	1.2
** Manufacturer's guaranteed minimum CVN values of 47 J at minus 60 Cen. Deg.						
MG-S9Cb	AWS 5.28	ER90S-G	M21	All	DCEP	1.2
MG-T1CM	**	**	M21	All	DCEP	1.2
**Manufacturer's guaranteed minimum properties; Y.S. 460 N/mm ² , T.S. 560 N/mm ² , El.19 %, CVN 47 J at minus 60 Cen. Deg. And Manufacturer's chemical composition of wire: C: 0.12 % max, Mn: 0.60-1.40 %, Si: 0.30-0.90 %, S: 0.025% max, P: 0.025 % max, Cu: 0.35 % max, Ni: 1.10-1.60 %, Mo: 0.4-0.65 %, Post weld heat treatment: 660 Cen. Deg.						
MIX-50	ABS	3SA, 3YSA	M21	All	DCEP	0.9-1.2
	ABS	3SA, 3YSA	M21	F, H	DCEP	1.4-1.6

TO BE CONTINUED

Note: This Certificate evidences compliance with one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. This Certificate is a representation only that the structure, item of material, equipment, machinery or any other item covered by this Certificate has met one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping as of the date of issue. Parties are advised to review the Rules for the scope and conditions of classification and to review the survey records for a fuller description of any restrictions or limitation on the vessel's service or surveys. The validity, applicability and interpretation of this Certificate is governed by the Rules and standards of American Bureau of Shipping who shall remain the sole judge thereof. Nothing contained in this Certificate or in any notation made in contemplation of this Certificate shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied.



Certificate no.: 848327-4099570-002
 Report No.: KO4099570
 Port of: Kobe, Japan
 Date: 22 June 2020

TRADE NAME	SPECIFICATION	GRADE OR CLASS	SHIELDING GAS	POSITION	CURRENT/ POLARITY	SIZE mm
MIX-50S	ABS	3SA, 3YSA	M21	All, V-Down	DCEP	0.9-1.2
	ABS	3SA, 3YSA	M21	F, H, V-Down	DCEP	1.4
	ABS	3SA, 3YSA	M21	F, H	DCEP	1.6
SE-50T	ABS	3SA, 3YSA	C1	All, V-Down	DCEP	0.9-1.2
SE-A50S	ABS	3SA, 3YSA	M21	All	DCEP	1.2
TG-S1N	ABS	4YSA**	Ar	All	DCEN	1.6-2.4
** Manufacturer's guaranteed minimum CVN values of 47 J at minus 60 Cen. Deg.						
TG-S2CW	**	**	Ar	All, HF	DCEN	0.8-3.2
**Manufacturer's guaranteed minimum properties; Y.S. 530 N/mm2, T.S. 620 N/mm2, El.16 %						
TG-S50	ABS	3, 3Y	Ar	All	DCEN	1.6-3.2
TG-S9Cb	**	**	Ar	All	DCEN	0.8-3.2
**Manufacturer's guaranteed minimum properties; Y.S. 450 N/mm2, T.S. 621 N/mm2, El.17 %, CVN value: N/A, Welding Technique: TIG Welding Process						
TG-S80AM	ABS	5YQ690SA, H5	Ar	All, HF	DCEN	1.2-2.4



 T. OKAMOTO, SURVEYOR

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