



WELDING CONSUMABLE CERTIFICATE

Certificate No.: 075227-5492643-001 _____

Report No.: 5492643 _____

Port of: Yokohama(Kanto), Japan _____

Date: 24 February 2023 _____

THIS IS TO CERTIFY

THAT THE UNDERSIGNED SURVEYOR TO THIS BUREAU DID, AT THE REQUEST OF KOBE STEEL LTD, ATTEND THEIR PLANT AT FUJISAWA, JAPAN, ON THE 4TH DAY OF OCTOBER, 2022 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 FLUX CORED ARC WELDING SECTION:

<u>TRADE NAME</u>	<u>SPECIFICATION</u>	<u>GRADE OR CLASS</u>	<u>SHIELDING GAS</u>	<u>POSITION</u>	<u>CURRENT/ POLARITY</u>	<u>SIZE</u>
DW-308 *Manufacturer's guaranteed min. TS 550 MPa, El. 35 %	AWS A5.22: 2012	E308T0-1*	CO2	F, H, V	DCEP	1.2-1.6 mm
DW-308L *Manufacturer's guaranteed min. TS 520 MPa, El. 35%, CVN 29J at -196 deg. C, Chem. %: C max 0.04, Mn 1.0-2.5, Si max 1.0, P max 0.04, S max 0.03, Ni 9.0-11.0, Cr 18.0-21.0	Other	MG*	CO2	F, V	DCEP	1.2-1.6mm
DW-309L *Manufacturer's guaranteed min. TS 520MPa, El. 30%, Chem. %: C max 0.04, Mn 1.0-2.5, Si max 1.0, P max 0.04, S max 0.03, Ni 12.0-14.0, Cr 22.0-25.0	Other	MG*	CO2	F, V	DCEP	1.2-1.6mm
DW-309MoL *Manufacturer's guaranteed min. TS 520MPa, El. 20%, Chem. %: C max 0.04, Mn 1.0-2.5, Si max 1.0, P max 0.04, S max 0.03, Ni 12.0-14.0, Cr 22.0-25.0, Mo 2.0-3.0	Other	MG*	CO2	F, V	DCEP	1.2-1.6mm
DW-316L *Manufacturer's guaranteed min. TS 490MPa, El. 30%, Chem. %: C max 0.04, Mn 1.0-2.5, Si max 1.0, P max 0.04, S max 0.03, Ni 11.0-14.0, Cr 17.0-20.0, Mo 2.0-3.0	Other	MG*	CO2	F, V	DCEP	1.2-1.6mm
DW-308LP *Manufacturer's guaranteed min. TS 520MPa, El. 35%	AWS A5.22: 2012	E308LT1-1*	CO2	All	DCEP	1.2mm
DW-316LT *Manufacturer's guaranteed min. TS 485MPa, El. 30%	AWS A5.22: 2012	E316LT1-1*	CO2	F, V	DCEP	1.2mm
DW-309LP	AWS A5.22: 2012	E309LT1-1/ E309LT1-4	CO2/ Ar-CO2(M21)	All	DCEP	1.2-1.6mm

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.

DW-N625	AWS A5.34: 2018	ENiCrMo3T1-4*	Ar-CO2(M21)	F, Vup, HF	DCEP	1.2mm
*Manufacturer's guaranteed min. YS 430MPa, TS 690MPa, El. 35%, CVN min 50J at -196 deg. C						
DW-N709SP	ISO12153: 2011	T Ni 1013 P*	Ar-CO2(M21)	F, Vup, HF	DCEP	1.2mm
*Manufacturer's guaranteed min. YS 430MPa, TS 690MPa, El. 35%, CVN min 50J at -196 deg. C						
DW-308LP-XR	AWS A5.22: 2012	E308LT1-4	75%Ar-25%CO2	All	DCEP	1.2mm
DW-309LP-XR	AWS A5.22: 2012	E309LT1-4	75%Ar-25%CO2	All	DCEP	1.2 mm
DW-316LP-XR	AWS A5.22: 2012	E316LT1-4	75%Ar-25%CO2	All	DCEP	1.2mm
DW-N709SP	ISO 12153: 2011	T Ni 1013 P*	CO2	F, H, Vup, HF	DCEP	1.2mm
*Manufacturer's guaranteed min. YS 430MPa, TS 690MPa, El. 35%, CVN min 50J at -196 deg. C						
DW-2594	AWS A5.22: 2012	E2594T1-1*	CO2	F, H, Vup,	DCEP	1.2mm
*Manufacturer's guaranteed min. YS 690MPa, TS 886MPa, El. 20%, CVN min 48J at -20 deg. C						
DW-N609SV	Other	MG*	CO2	F, Vup, HF	DCEP	1.2mm
*Manufacturer's guaranteed min. YS 430 MPa, TS 690 MPa, El 25%, CVN min 34 J at - 196 deg. C, Chem. %: C max 0.02, Si max 0.5, Mn max 1.0, P max 0.03, S max 0.03, Cu max 0.5, Ni 50.0-63.5, Cr 14.5-16.5, Mo 15.0-17.0, Fe 4.0-7.0, W 3.0-4.5						
DW-N709S	AWS A5.34: 2013	ENiMo13*	CO2	F, H, HF	DCEP	1.2mm
*Manufacturer's guaranteed min. YS 430MPa, TS 690MPa, El. 35%, CVN min 50J at -196 deg. C						
DW-329AP	AWS A5.22: 2012	E2209T1-1/ E2209T1-4	CO2/ Ar-CO2(M21)	All	DCEP	1.2 mm


 Sakai, Hiroo SURVEYOR



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