



Welding Consumable: Approval Certificate

Office: **Mumbai-Port**

Date: **27 June 2019**

This Certificate is issued to Superon Schweisstechnik India Limited, India, to certify that the undernoted welding consumable is recommended for entry in the supplementary list of certified welding consumable in accordance with ASME Section II, Part C, SFA 5.1, specification of the year 2017. This certificate is issued on the basis of satisfactory test results on the test coupons prepared on 12 April 2019 and subsequently tested on 15 May 2019. Welding consumable is manufactured by Superon Schweisstechnik India Limited, IMT Manesar, India

Description:

Consumable name : SUPER OPTIMAL 7018 S H4R

Size : 2.4, 3.2, 4.0, 4.8, 5.0 mm

SFA Classification : AWS A / SFA 5.1 : E7018-1 H4R

Results of test :

	2.40 mm	3.20 mm	4.00 mm	4.80 mm	5.00 mm
0.2% Proof stress (N/mm ²)	Not Required	Not Required	536.02	Not Required	537.41
UTS (N/mm ²)	Not Required	Not Required	606.51	Not Required	603.42
% Elongation	Not Required	Not Required	30.66	Not Required	29.80
Impact at -45deg C (AVG)	Not Required	Not Required	110	Not Required	132.67
Chemical	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable
Radiography	Not Required	Not Required	Acceptable	Not Required	Acceptable
Fillet (H,V, OH)	Not Required	Not Required	Acceptable	Not Required	Acceptable
Moisture	Not Required	Not Required	Acceptable	Not Required	Not Required
Current Polarity	AC / DCEP	AC / DCEP	AC / DCEP	AC / DCEP	AC / DCEP

Chemical Analysis- Size: 2.40 mm

	C	Mn	Si	S	P	Cr	Ni	Mo	V
	%	%	%	%	%	%	%	%	%
Range	0.15 max.	1.60 max.	0.75 max.	0.035 max	0.035 max	0.20max	0.30max	0.30 max	0.08 max
Result	0.048	1.36	0.37	0.010	0.021	0.027	0.054	0.003	0.003

Chemical Analysis- Size: 3.20 mm

	C	Mn	Si	S	P	Cr	Ni	Mo	V
	%	%	%	%	%	%	%	%	%
Range	0.15 max.	1.60 max.	0.75 max.	0.035 max	0.035 max	0.20max	0.30max	0.30 max	0.08 max
Result	0.047	1.37	0.33	0.011	0.022	0.031	0.060	0.002	0.003

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Chemical Analysis- Size: 4.00 mm

	C	Mn	Si	S	P	Cr	Ni	Mo	V
	%	%	%	%	%	%	%	%	%
Range	0.15 max.	1.60 max.	0.75 max.	0.035 max	0.035 max	0.20max	0.30max	0.30 max	0.08 max
Result	0.049	1.48	0.34	0.013	0.022	0.027	0.056	0.003	0.002

Chemical Analysis- Size: 4.80 mm

	C	Mn	Si	S	P	Cr	Ni	Mo	V
	%	%	%	%	%	%	%	%	%
Range	0.15 max.	1.60 max.	0.75 max.	0.035 max	0.035 max	0.20max	0.30max	0.30 max	0.08 max
Result	0.051	1.40	0.34	0.011	0.025	0.025	0.059	0.003	0.003

Chemical Analysis- Size: 5.00 mm

	C	Mn	Si	S	P	Cr	Ni	Mo	V
	%	%	%	%	%	%	%	%	%
Range	0.15 max.	1.60 max.	0.75 max.	0.035 max	0.035 max	0.20max	0.30max	0.30 max	0.08 max
Result	0.051	1.41	0.34	0.012	0.027	0.025	0.058	0.003	0.003

Refer Report No. N190418030-3/4 for radiography, results found satisfactory.

Refer Fillet test report No. 3/4 dated 15/05/2019 for fillet test and results found satisfactory.

Refer Determination of Diffusible Hydrogen Content report F/QA/IV/07/01.

Refer Moisture Content Test report F/QA/IV/32/00.

Certificate is valid until 18 May 2020.



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