



Welding Consumable: Approval Certificate

Office: **Mumbai-Port**

Date: **18 May 2016**

This Certificate is issued to **Senor Metals Pvt. Ltd.** 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 5.4, specification of the year 2015. This certificate is issued on the basis of satisfactory test results on the test coupons prepared on 1 March 2016 and subsequently tested on 22 March 2016. Welding consumable is manufactured by Senor Metals Pvt. Ltd. Jamnagar, India

Description:

Consumable name : SME 2209-16
Size : 2.5, 3.15, 4.0 mm
SFA Classification : SFA 5.4 AWS CL.E

Results of test

| | 2.50mm | 3.15mm | 4.00 mm |
|--------------------|--------------|-----------------------|-----------------------|
| Yield Strength | Not Required | 742 N/mm ² | 712 N/mm ² |
| UTS | Not Required | 883 N/mm ² | 849 N/mm ² |
| % Elongation | Not Required | 29.20 | 24.00 |
| Impact at -50deg C | Not Required | -- | -- |
| Chemical | Acceptable | Acceptable | Acceptable |
| Radiography | Not Required | Not Required | Not Required |
| Fillet(H,V, OH) | Not Required | Acceptable | Acceptable |

Chemical Analysis- Size: 2.5mm

| | C | Mn | Si | S | P | Ni | Mo | Cr | Cu | N |
|--------|----------|---------|----------|----------|----------|----------|---------|-----------|------|----------|
| | % | % | % | % | % | % | % | % | % | % |
| Range | 0.04 max | 0.5-2.0 | 1.00 max | 0.03 max | 0.04 max | 8.5-10.5 | 2.5-3.5 | 21.5-23.5 | 0.75 | 0.08-0.2 |
| Result | 0.037 | 0.80 | 0.80 | 0.007 | 0.025 | 8.60 | 2.64 | 21.67 | 0.07 | 0.18 |

Chemical Analysis- Size: 3.15mm

| | C | Mn | Si | S | P | Ni | Mo | Cr | Cu | N |
|--------|----------|---------|----------|----------|----------|----------|---------|-----------|-------|----------|
| | % | % | % | % | % | % | % | % | % | % |
| Range | 0.04 max | 0.5-2.0 | 1.00 max | 0.03 max | 0.04 max | 8.5-10.5 | 2.5-3.5 | 21.5-23.5 | 0.75 | 0.08-0.2 |
| Result | 0.038 | 0.91 | 0.98 | 0.005 | 0.022 | 8.55 | 2.53 | 21.56 | 0.089 | 0.14 |

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Chemical Analysis- Size: 4mm

| | C | Mn | Si | S | P | Ni | Mo | Cr | Cu | N |
|--------|----------|---------|----------|----------|----------|----------|---------|-----------|-------|----------|
| | % | % | % | % | % | % | % | % | % | % |
| Range | 0.04 max | 0.5-2.0 | 1.00 max | 0.03 max | 0.04 max | 8.5-10.5 | 2.5-3.5 | 21.5-23.5 | 0.75 | 0.08-0.2 |
| Result | 0.025 | 0.90 | 0.97 | 0.005 | 0.022 | 8.58 | 3.09 | 22.23 | 0.087 | 0.17 |

Certificate is valid until 21 March 2017.



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