



# CEWELD AA M690

|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                  |                      |                    |                         |       |          |     |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|----------------------|--------------------|-------------------------|-------|----------|-----|
| TYPE                                        | Seamless metal flux cored wire for gas metal arc welding of high-strength steels up to a minimum yield strength of 690 MPa. (Type T 69 6 Mn2NiCrMo, E 110C-K4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                  |                      |                    |                         |       |          |     |
| APPLICATIONS                                | CEWELD® AA M690 offers a unique weld metal even after PWHT, for steels up to 690 MPa yield strength.<br>Areas of application are:<br>Crane-, plant-, craft-, lifting and steel construction, pipe work, foundries, ship building, offshore applications and also for penstocks.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                  |                      |                    |                         |       |          |     |
| PROPERTIES                                  | CEWELD® AA M690 has excellent crack resistance in combination with a very low hydrogen content (Ø < 3 ml/100 g). It is therefore very suitable for the economical processing of high-strength fine-grain structural steels up to 690 MPa yield strength and heat-resistant fine-grain structural steels. The excellent welding properties in the short arc and spray arc as well as the high deposition rate and the absence of intermediate cleaning with very low spatter losses result in high economic efficiency. In addition, it has excellent wetting behaviour compared to solid wires, which results in an extended parameter range and an improved duty cycle for the welder                                                                                                                                           |                                                  |                      |                    |                         |       |          |     |
| CLASSIFICATION                              | AWS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | A 5.28: E110C-K4 H4, A 5.36: E111T15-M21A8-K4-H4 |                      |                    |                         |       |          |     |
|                                             | EN ISO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 18276-A: T 69 6 Mn2NiCrMo M M21 1 H5             |                      |                    |                         |       |          |     |
|                                             | F-nr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 6                                                |                      |                    |                         |       |          |     |
|                                             | FM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2                                                |                      |                    |                         |       |          |     |
| SUITABLE FOR                                | <b>Reh &lt; 690 MPa Iso 15608: 2.2, 3.1 u 3.2 ( 460 &lt; Reh ≤ 690(700) MPa )</b><br>1.7147, 1.7149, 1.8914, 1.8915, 1.8917, 1.8927, 1.8928, 1.8930, 1.8931, 1.8932, 1.8734, 1.8974, S620Q, S620QL, S690Q, S690QL, S620QL1-S690QL1, 20MnCr65, 28CrMn4-3<br>L480 - L550, X65, X80, X90, X100<br>ASTM A 514 Gr. F, H, Q; A 709 Gr. 100 Type B, E, F, H, Q; A 709 Gr. HPS 100W<br>Weldox 700, Dillimax 690, Hardox, Naxtra 63, Naxtra 70, Optim 700 mc plus, Weldox 500, Hardox, Domex 460 MC, Domex 500 MC, Domex 550 MC, Domex 600 MC, Domex 650 MC, Domex 700 MC, Hardox 400,Strenx 700; XAR 400, Dillidur 400, Oceanfit 100, Oceanfit 690, alform plate 620 M, 700 M, aldur 620 Q, 620 QL, 620 QL1, aldur 700 Q, 700 QL, 700 QL1, Salzgitter S700MC, Ympress Steel E690 TM, S700MC, Armstrong Ultra 650MC, 650 Mct, 700 MC..... |                                                  |                      |                    |                         |       |          |     |
| APPROVALS                                   | TÜV: (12707), CE, Lloyds, DNV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                  |                      |                    |                         |       |          |     |
| WELDING POSITIONS                           | <div></div>                                                                                                                                                                                                                 |                                                  |                      |                    |                         |       |          |     |
| TYPICAL CHEMICAL ANALYSIS OF WELD METAL (%) | C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Si                                               | Mn                   | P                  | S                       | Cr    | Ni       | Mo  |
|                                             | 0.05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.4                                              | 1.6                  | 0.015              | 0.015                   | 0.5   | 2.2      | 0.5 |
| MECHANICAL PROPERTIES                       | Heat Treatment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | R <sub>P0,2</sub> (MPa)                          | R <sub>m</sub> (MPa) | A <sub>5</sub> (%) | Impact Energy (J) ISO-V |       | Hardness |     |
|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                  |                      |                    | -40°C                   | -60°C |          |     |
|                                             | As Welded                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 763                                              | 820                  | 20                 | 140                     | 107   | HRc      |     |
|                                             | 570°C- 620°C 1h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 730                                              | 790                  | 22                 | 99                      | 94    | HRc      |     |
| REDRYING                                    | Not required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                  |                      |                    |                         |       |          |     |
| GAS ACC. EN ISO 14175                       | M21                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                  |                      |                    |                         |       |          |     |



# CEWELD AA M690

## AA M690 1,0MM

| Packaging | KG/unit | EanCode       |
|-----------|---------|---------------|
| K-300     | 16      | 8720663423467 |

## AA M690 1,2MM

| Packaging | KG/unit | EanCode       |
|-----------|---------|---------------|
| BS-300    | 16      | 8720663423474 |
| D-200     | 5       | 8720663423450 |

## AA M690 1,6MM

| Packaging | KG/unit | EanCode       |
|-----------|---------|---------------|
| K-300     | 16      | 8720663408181 |