EEW CLADPipe

Long life span and excellent cost-efficiency
Cost-effectiveness is the keyword for clad steel pipes. Clad material combines the corrosive and/or wear resistance properties of CRA with the high strength of carbon manganese steels. This means thinner wall thicknesses and much less CRA material, leading to cost savings up to 70% or more, depending upon grade and wall thickness.

In addition to the standard pipe production the inner submerged-arc weld seam also has to be clad. For this purpose, EEW utilizes the Resistant Electro-Slag (RES) welding process using special strip cladding nozzels.

EEW is well aware of the increasing demand for line pipes made of corrosion resistant alloys (CRA). Oil & gas projects as well as the hydrocarbon processing industry are increasingly faced with higher concentrations of hydrogen sulphide, carbon dioxide and other highly corrosive substances and environments.

The need for cost-efficiency brings additional challenges for the engineers – higher process temperatures and pressures, enhancement of integrity and lower maintenance are the keywords here.

NEW CHALLENGES REQUIRE NEW SOLUTIONS

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Excellent process stability and minimum dilution between CRA and base metal (ensuring the corrosion properties) even at high deposition rates are characteristic for this process as well as homogeneous weld metal, low crack sensitivity and a flat weld profile.
EEW’S UNIQUE FABRICATION PROGRAMME

EEW CLADPipes are manufactured from metallurgically roll-bonded and explosion welded plates. The metallurgical bonding assures the integrity of the clad material throughout the fabrication process up to welding and installation of pipes. In general, the fabrication of CLADPipes follows the well-established EEW production routes. Therefore the standard dimensional delivery schedule with O.D. starting at 406.4 mm (16”) and lengths up to 13,200 mm (43 ft) can be applied.

EEW CLADPipe FABRICATION PROGRAMME

Based on API 5L Grade X65 plus 3 mm CLAD

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<th>OD (mm)</th>
<th>WT (mm)</th>
<th>≤12.7 (≤0.500)</th>
<th>159 (0.625)</th>
<th>191 (0.750)</th>
<th>22,2 (0.875)</th>
<th>25,4 (1.000)</th>
<th>28,6 (1.125)</th>
<th>31,8 (1.250)</th>
<th>34,9 (1.375)</th>
<th>38,1 (1.500)</th>
<th>41,3 (1.625)</th>
<th>44,5 (1.750)</th>
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Pipe length 12,200 mm (max. 13,200 mm)
Pipe with 2 long welds
Production to be checked
Production of intermediate OD and wall thickness is possible.

WT = wall thickness
OD = outside diameter

EEW MATERIAL COMBINATIONS

A wide range of CARBON STEEL grades are available for the backing material e.g.:
- API 5L
- ASTM A 516

CLAD MATERIAL
- 304L
- Alloy 904L
- C276
- 316L
- Alloy 825
- 317L
- Alloy 625

Other material combinations are available upon customer request.
CLADPipes require tighter dimensional tolerances than ordinary line pipes. Girth welding on site – in particular in the offshore sector – is always more challenging compared to shop welding. The root pass of girth welds is very critical, especially when welding CLADPipes.

Welding speeds, defect probability and repair rates are the major aspects which have to be considered for construction. The accuracy of the root pass is an essential point when considering the life span of a clad pipeline. Therefore the pipe ends need to have very tight tolerances.

With our newly developed plate edge pre-forming equipment, the risk of peaking or flat areas adjacent to the weld seam is eliminated.

EEW can guarantee a maximum deviation from the nominal I.D. combined with out-of-roundness at the pipe ends of ±1,0 mm.