

ARMOX® 500T

(ARMOX 500S C 9640X0052 THD, ARMOX 500Z TL 2350-0000, MIL-A-46100)

| CHEMICAL COMPOSITION (Ladle analysis) | C | Si | Mn | P | S | Cr | Ni | Mo | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|---|--|------------------------|-------------------|-------------------|------------------|--------------------------------|--------------------------------|---------------------------------|-----------------------------------|--|---------------------------------------|--|------|------|-------|-------|-------|---------|--|-------|-------|-------|---------|--|-------|-------|-------|---------|--|-------|-------|-------|---------|--|-------|-------|-------|----------|--|-------|-------|-------|----------|--|-------|-------|-------|
| | max % | % | max % | max % | max % | max % | max % | max % | max % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0,32 | 0,1 – 0,4 | 1,20 | 0,015 | 0,010 | 1,0 ¹⁾ | 1,8 ¹⁾ | 0,7 | 0,005 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>The steel is grain-refined. ¹⁾ For plate thicknesses > 70 mm Cr ≤ 1,5 and Ni ≤ 3,5</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MECHANICAL PROPERTIES | Hardness HBV | Charpy-V-40°C ¹⁾ 10x10 test specimen ²⁾ | Yield strenght Rp0,2 N/mm ² | Tensile strenght Rm N/mm ² | Elongation A5% A50% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | *480-540 | Min.20 Joule | Min. 1250 | 1450-1750 | Min.8 Min.10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>*Min. 490 HB can be guaranteed by special agreement. ¹⁾ Average of three tests. Transverse to rolling direction. Single value min. 70% of specified average. ²⁾ For plate thicknesses under 12 mm subsize Charpy V – specimens are used. The specified minimum value is then proportional to the specimens cross-section.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TESTING | Brinell hardness test | Charpy impact test | Tensile testing | Ultrasonic testing | EN ISO 6506-1 | EN 10 045-1 | EN 10 002-1 | SEL 072/077 CL.3 | Each heat treatment individual | Each heat and thickness > 4 mm | Each heat and thickness < 20 mm | Each plate in thickness 60-150 mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DELIVERY CONDITION | Quenched and tempered. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DIMENSIONS | ARMOX 500T is supplied in plate thicknesses 3-150 mm. Plate thicknesses ≥ 60 mm are supplied with mill edge or by special agreement only. More detailed information on dimensions is provided in our General information brochure. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOLERANCES | Dimensional tolerances according to EN 10 029 excluding thickness tolerances | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | - Thickness tolerances: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Plate thickness in mm</th> <th colspan="2">Standard Tolerances in mm</th> <th colspan="2">By special agreement Tolerances in mm</th> </tr> </thead> <tbody> <tr> <td>< 13</td> <td>-0,0</td> <td>+ 0,8</td> <td>- 0,2</td> <td>+ 0,6</td> </tr> <tr> <td>13 < 20</td> <td></td> <td>+ 1,0</td> <td>- 0,2</td> <td>+ 0,8</td> </tr> <tr> <td>20 < 40</td> <td></td> <td>+ 1,2</td> <td>- 0,2</td> <td>+ 1,0</td> </tr> <tr> <td>40 < 60</td> <td></td> <td>+ 1,6</td> <td>- 0,3</td> <td>+ 1,3</td> </tr> <tr> <td>60 < 80</td> <td></td> <td>+ 2,0</td> <td>- 0,3</td> <td>+ 1,7</td> </tr> <tr> <td>80 < 110</td> <td></td> <td>+ 2,4</td> <td>- 0,4</td> <td>+ 2,0</td> </tr> <tr> <td>110- 150</td> <td></td> <td>+ 3,0</td> <td>- 0,5</td> <td>+ 2,5</td> </tr> </tbody> </table> | | | | | | | | | | | Plate thickness in mm | Standard Tolerances in mm | | By special agreement Tolerances in mm | | < 13 | -0,0 | + 0,8 | - 0,2 | + 0,6 | 13 < 20 | | + 1,0 | - 0,2 | + 0,8 | 20 < 40 | | + 1,2 | - 0,2 | + 1,0 | 40 < 60 | | + 1,6 | - 0,3 | + 1,3 | 60 < 80 | | + 2,0 | - 0,3 | + 1,7 | 80 < 110 | | + 2,4 | - 0,4 | + 2,0 | 110- 150 | | + 3,0 | - 0,5 | + 2,5 |
| Plate thickness in mm | Standard Tolerances in mm | | By special agreement Tolerances in mm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| < 13 | -0,0 | + 0,8 | - 0,2 | + 0,6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 < 20 | | + 1,0 | - 0,2 | + 0,8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 < 40 | | + 1,2 | - 0,2 | + 1,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 < 60 | | + 1,6 | - 0,3 | + 1,3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 60 < 80 | | + 2,0 | - 0,3 | + 1,7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80 < 110 | | + 2,4 | - 0,4 | + 2,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 110- 150 | | + 3,0 | - 0,5 | + 2,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Other thickness tolerances by special agreement. Dimensional tolerances for plate with mill edge according to special agreement. Flatness tolerances according to class N or according to special agreement.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SURFACE CONDITIONS | According to EN 10 163-2 Class B Subclass 3.. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GENERAL TECHNICAL DELIVERY CONDITION | According to EN 10 021 and EN 10 204. Unless otherwise agreed, inspection documents are issued in English with certificates of 3.1.b type. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HEAT TREATMENT AND FABRICATION | <p>ArmoX 500T may not be heated above 200°C (400°F) if guaranteed hardness is to be maintained. For further information on machining, cutting and welding, please see special brochure or contact us. Appropriate health and safety precautions must be taken when welding, cutting, grinding or otherwise working on the product. Grinding, especially of primer coated plates, may produce dust with high particle concentration. Our Technical Customer Service Department will provide further information on request.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |