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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|-----|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| <div>Data Sheet</div> <div>EN AW 6082 – Rods and bars</div> <div>Alumeco A/S</div>                                                                                                                                                                                                                                            |     |                                                                                                                                                                                                                                                                                                                |                                                                                                                  |              | <div>Internal alloy name: 6082</div> <div>International alloy name: EN AW 6082</div> <div>Chemical Symbol: EN AW – AlSi1MgMn</div> <div>DIN-Werkstoff no.: 3.2315</div> <div>Alloy type: Heat treatable alloy</div>                                                                                                                                                                                                                                           |                                                            |     |                |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
| <div>Main usage</div> <div><ul style="list-style-type: none"><li>• Machining</li><li>• Machinery</li><li>• Heavy duty structures</li><li>• Marine and offshore</li></ul></div>                                                                                                                                                |     | <div>Main properties</div> <div><ul style="list-style-type: none"><li>• Very good atmospheric corrosion resistance</li><li>• Very good workability</li><li>• Good machinability</li><li>• Heat treatable alloys (Soft T4 temper)</li><li>• A special anodizing quality is available by request</li></ul></div> |                                                                                                                  |              | <div>Important norms and literature</div> <div><div>Extrusion:<br/>EN 755-1: Technical conditions for inspection and delivery<br/>EN 755-2: Mechanical properties<br/>EN 755-9: Tolerances on dimensions and forms for different extrusions</div><div>Usages:<br/>EN 13195: Specifications for wrought products for marine applications<br/>EN 602: Usage in the food industry</div><div>Chemical composition:<br/>EN 573-3: Chemical composition</div></div> |                                                            |     |                |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
| <div>Chemical composition EN 573-3:2009</div>                                                                                                                                                                                                                                                                                 |     |                                                                                                                                                                                                                                                                                                                |                                                                                                                  |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                            |     |                |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
| Si                                                                                                                                                                                                                                                                                                                            | Fe  | Cu                                                                                                                                                                                                                                                                                                             | Mn                                                                                                               | Mg           | Cr                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Zn                                                         | Ti  | Other elements |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
|                                                                                                                                                                                                                                                                                                                               |     |                                                                                                                                                                                                                                                                                                                |                                                                                                                  |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                            |     | Each           | together                                                                                                                                                                                                                                                                                                                                                               |  |  |
| 0.7-1.3                                                                                                                                                                                                                                                                                                                       | 0.5 | 0.1                                                                                                                                                                                                                                                                                                            | 0.4-1.0                                                                                                          | 0.6-1.2      | 0.25                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.2                                                        | 0.1 | 0.05           | 0.15                                                                                                                                                                                                                                                                                                                                                                   |  |  |
| <div>Typical mechanical properties EN 755 – 2 (Extruded profiles)</div>                                                                                                                                                                                                                                                       |     |                                                                                                                                                                                                                                                                                                                |                                                                                                                  |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                            |     |                |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
| Product group                                                                                                                                                                                                                                                                                                                 |     | Temper                                                                                                                                                                                                                                                                                                         |                                                                                                                  | Rm           |                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Rp0,2                                                      |     | A              |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
| Dimension (mm)                                                                                                                                                                                                                                                                                                                |     |                                                                                                                                                                                                                                                                                                                |                                                                                                                  | MPa          |                                                                                                                                                                                                                                                                                                                                                                                                                                                               | MPa                                                        |     | %              |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
| Rod/bar ≤ 200                                                                                                                                                                                                                                                                                                                 |     | O, H111                                                                                                                                                                                                                                                                                                        |                                                                                                                  | Max. 160     |                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Max. 110                                                   |     | 14             |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
| Rod/bar ≤ 200                                                                                                                                                                                                                                                                                                                 |     | T4                                                                                                                                                                                                                                                                                                             |                                                                                                                  | Min. 205     |                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Min. 110                                                   |     | 14             |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
| Rod/bar ≤ 20                                                                                                                                                                                                                                                                                                                  |     | T6                                                                                                                                                                                                                                                                                                             |                                                                                                                  | Min. 295     |                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Min. 250                                                   |     | 8              |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
| Rod/bar<br>20 <D ≤ 150                                                                                                                                                                                                                                                                                                        |     | T6                                                                                                                                                                                                                                                                                                             |                                                                                                                  | Min. 310     |                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Min. 260                                                   |     | 8              |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
| Rod/bar<br>150 <D ≤ 200                                                                                                                                                                                                                                                                                                       |     | T6                                                                                                                                                                                                                                                                                                             |                                                                                                                  | Min. 280     |                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Min. 240                                                   |     | 6              |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
| Rod/bar<br>200 <D ≤ 250                                                                                                                                                                                                                                                                                                       |     | T6                                                                                                                                                                                                                                                                                                             |                                                                                                                  | Min. 270     |                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Min. 200                                                   |     | 6              |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
| <div>* Information values only</div>                                                                                                                                                                                                                                                                                          |     |                                                                                                                                                                                                                                                                                                                |                                                                                                                  |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                            |     |                |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
| <div>Physical properties</div>                                                                                                                                                                                                                                                                                                |     |                                                                                                                                                                                                                                                                                                                |                                                                                                                  |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                            |     |                |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
| Density                                                                                                                                                                                                                                                                                                                       |     | Solidification                                                                                                                                                                                                                                                                                                 |                                                                                                                  | Electrical   |                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Thermal                                                    |     | Thermal        |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
| g/cm³                                                                                                                                                                                                                                                                                                                         |     | range °C                                                                                                                                                                                                                                                                                                       |                                                                                                                  | conductivity |                                                                                                                                                                                                                                                                                                                                                                                                                                                               | conductivity                                               |     | expansion      |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
|                                                                                                                                                                                                                                                                                                                               |     |                                                                                                                                                                                                                                                                                                                |                                                                                                                  | %IACS        |                                                                                                                                                                                                                                                                                                                                                                                                                                                               | W/m K                                                      |     | (µm m⁻¹ K⁻¹)   |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
| 2.70                                                                                                                                                                                                                                                                                                                          |     | 575-650                                                                                                                                                                                                                                                                                                        |                                                                                                                  | 44           |                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 172                                                        |     | 23.1           |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
|                                                                                                                                                                                                                                                                                                                               |     |                                                                                                                                                                                                                                                                                                                |                                                                                                                  |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                            |     | 350-400        |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
|                                                                                                                                                                                                                                                                                                                               |     |                                                                                                                                                                                                                                                                                                                |                                                                                                                  |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                            |     | 70,000         |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
| <div>Typical Alumeco products with this alloy</div> <div><ul style="list-style-type: none"><li>• Profiles in various dimensions and form</li></ul></div>                                                                                                                                                                      |     |                                                                                                                                                                                                                                                                                                                |                                                                                                                  |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                            |     |                |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
| <div>Properties and information (3 high/good; 2 medium; 1 poor/bad)</div>                                                                                                                                                                                                                                                     |     |                                                                                                                                                                                                                                                                                                                |                                                                                                                  |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                            |     |                |                                                                                                                                                                                                                                                                                                                                                                        |  |  |
| <div>Resistance</div> <div>Corrosion index, general: 3</div> <div>Marine atm. corr. index: 3</div> <div>Hot workability</div> <div>Extrusion: 3</div> <div>Forging: 3</div> <div>Cold formability</div> <div>Cold formability general: 2</div> <div>Deep drawing: 1</div> <div>Bending: 2 – 3 (Depending on the temper)</div> |     |                                                                                                                                                                                                                                                                                                                | <div>Weldability</div> <div>TIG welding: 2</div> <div>MIG welding: 2</div> <div>Solderability</div> <div>1</div> |              |                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <div>Machinability</div> <div>Machinability index: 3</div> |     |                | <div>Anodizing</div> <div>Decorative anodizing surface treatment: 2</div> <div>Protective anodizing index: 3</div> <div>Hard anodizing: 3</div> <div>Color anodizing: 2</div> <div>General information</div> <div>Decorative anodizing can be a challenge due to crystal growth in the material.</div> <div>A special anodizing quality is available by request.</div> |  |  |