

| Data Sheet  |                         | EN AW 6082 – Profiles         |   | Alumeco A/S   |                          | Internal alloy name: 6082   |     | International alloy name: EN AW 6082 |   | Chemical Symbol: EN AW – AlSi1MgMn |  | DIN-Werkstoff no.: 3.2315 |  | Alloy type: Heat treatable alloy |  |
|---|-------------------------|-------------------------------|---|---|--------------------------|---|-----|--------------------------------------|---|------------------------------------|--|---------------------------|--|----------------------------------|--|
| <b>Main usage</b>   |                         |                               | <b>Main properties</b>  |   |                          | <b>Important norms and literature</b>   |     |                                      |   |                                    |  |                           |  |                                  |  |
| <ul style="list-style-type: none"> <li>Machining</li> <li>Machinery</li> <li>Heavy duty structures</li> <li>Marine and offshore</li> </ul>  |                         |                               | <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> </ul> |   |                          | 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<br><br>Usages:<br>EN 13195: Specifications for wrought products for marine applications<br>EN 602: usage in the food industry<br><br>Chemical composition:<br>EN 573-3: Chemical composition |     |                                      |   |                                    |  |                           |  |                                  |  |
| <b>Chemical composition EN 573-3:2009</b>   |                         |                               |   |   |                          |   |     |                                      |   |                                    |  |                           |  |                                  |  |
| 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  |                                    |  |                           |  |                                  |  |
| <b>Typical mechanical properties EN 755 – 2 (Extruded profiles)</b>   |                         |                               |   |   |                          |   |     |                                      |   |                                    |  |                           |  |                                  |  |
| Open profile thickness (mm)   |                         | Temper                        |   | Rm MPa  |                          | Rp0,2 MPa   |     | A %                                  |   | Hardness* HB                       |  |                           |  |                                  |  |
| ≤ 25  |                         | T4                            |   | Min. 205  |                          | Min. 110  |     | 14                                   |   | 70                                 |  |                           |  |                                  |  |
| ≤ 5   |                         | T6                            |   | Min. 290  |                          | Min. 250  |     | 8                                    |   | 95                                 |  |                           |  |                                  |  |
| 5 < t ≤ 25  |                         | T6                            |   | Min. 310  |                          | Min. 260  |     | 10                                   |   | 95                                 |  |                           |  |                                  |  |
| * Information values only   |                         |                               |   |   |                          |   |     |                                      |   |                                    |  |                           |  |                                  |  |
| <b>Physical properties</b>  |                         |                               |   |   |                          |   |     |                                      |   |                                    |  |                           |  |                                  |  |
| Density g/cm <sup>3</sup>   | Solidification range °C | Electrical conductivity %IACS | Thermal conductivity W/m K  | Thermal expansion (µm m <sup>-1</sup> K <sup>-1</sup> ) | Annealing temperature °C | E - modulus (N / mm <sup>2</sup> )  |     |                                      |   |                                    |  |                           |  |                                  |  |
| 2.70  | 575-650                 | 44                            | 172   | 23.1  | 350-400                  | 70,000  |     |                                      |   |                                    |  |                           |  |                                  |  |
| <b>Typical Alumeco products with this alloy</b>   |                         |                               |   |   |                          |   |     |                                      |   |                                    |  |                           |  |                                  |  |
| <ul style="list-style-type: none"> <li>Profiles in various dimensions and form</li> </ul>   |                         |                               |   |   |                          |   |     |                                      |   |                                    |  |                           |  |                                  |  |
| <b>Properties and information (3 high/good; 2 medium; 1 poor/bad)</b>   |                         |                               |   |   |                          |   |     |                                      |   |                                    |  |                           |  |                                  |  |
| <u>Resistance</u><br>Corrosion index, general: 3<br>Marine atm. corr. index: 3<br><br><u>Hot workability</u><br>Extrusion: 3<br>Forging: 3<br><br><u>Cold formability</u><br>Cold formability general: 2<br>Deep drawing: 1<br>Bending: 2 – 3 (Depending on the temper) |                         |                               | <u>Weldability</u><br>TIG welding: 2<br>MIG welding: 2<br><br><u>Solderability</u><br>1   |   |                          | <u>Machinability</u><br>Machinability index: 3  |     |                                      | <u>Anodizing</u><br>Decorative anodizing surface treatment: 2<br>Protective anodizing index: 3<br>Hard anodizing: 3<br>Color anodizing: 2<br><br><u>General information</u><br>Decorative anodizing can be a challenge due to crystal growth in the material. |                                    |  |                           |  |                                  |  |