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| |  | | --- | | **Festigkeitseigenschaften Aluminium Rohre** | | **Aluminium Rohre nach den neuen DIN-Europa Standards**  DIN EN 573, DIN EN 754 und DIN EN 755    Einige Änderungen ergeben sich für Aluminiumprofile nach den neuen Europäischen Standards. Die Hauptunterschiede haben wir kurz zusammengefaßt.   1. [Änderung der Legierungsbezeichnungen](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#1) 2. [Änderung der Materialzustände](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#2) 3. [Änderung des Testverfahrens der technologischen Werte](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#3) 4. [Festigkeit / Zustand: Vergleich der wichtigsten Legierungen Europäischer Standard - DIN](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#4)   **1. Änderung der Legierungsbezeichnungen**    Anstatt der ehemals gültigen Legierungskennzeichnung durch die maximal zulässigen chemischen Werte (z.B. AlMgSi0,5), wird zukünftig das Internationale Registrierungs-Nummern-System zugrundegelegt.   * **EN:** Europäische Norm (European Standard ) * **AW:** Aluminium, knetgeformt (Aluminium Wrought) * **6060:** Internationale Registrierung der Legierung ALMgSi0,5   Durch die neuen Bezeichnungen geht einerseits der direkte Bezug zur chemischen Zusammensetzung verloren, andereseits ist der Vorteil, daß das Nummernsystem mit dem Internationalen Legierungsregister der Aluminium Association übereinstimmt und somit weltweit gültig ist.    **2. Änderung der Materialzustände**    In der DIN 1748 Teil 1 wurden die Werte für die Zugfestigkeit durch eine "F" Kennzahl direkt gekennzeichnet (z.B. F25 bedeutete Rm >= 270 N/mm²) Die Europäische Norm unterscheidet sich von dieser Regelung dahingehend, daß anstatt konkreter Zahlenwerte, Art und Effekt der Wärmebehandlung auf das fertige Halbzeug angegeben werden.    Die folgenden Materialzustände sind in der EN 755 Teil 2 (ebenfalls EN 515) genormt:    **Nicht aushärtbare Werkstoffe**    **F** - Herstellungszustand: Erzeugnisse aller Umformverfahren, bei denen die thermischen Bedingungen, oder die Kaltverfestigung keiner speziellen Kontrolle unterliegen. Keine Festlegung der Grenzwerte der mechanischen Eigenschaften.    **O** - Weichgeglüht Gilt nur für Erzeugnisse, die zur Erzielung eines Zustandes mit möglichst geringer Festigkeit geglüht werden.    **H** - Gilt für Erzeugnisse, die zur Sicherstellung der festgelegten mechanischen Eigenschaften nach dem Weichglühen oder dem Warmumformen einer Kaltumformung (mit oder ohne Erholungsglühung) unterliegen.    An den Buchstaben "**H**" schließen sich immer mindestens 2 Ziffern an:    **1. Art der thermischen Behandlung**     |  |  |  | | --- | --- | --- | | **H1x** |  | kaltverfestigt ohne thermische Behandlung | | **H2x** |  | kaltverfestigt und rückgeglüht | | **H3x** |  | kaltverfestigt und stabilisiert | | **H4x** |  | kaltverfestigt und einbrennlackiert |     **2. Grad der Kaltverfestigung**     |  |  |  | | --- | --- | --- | | **Hx0** |  | weich | | **Hx1** |  |  | | **Hx2** |  | viertelhart | | **Hx3** |  |  | | **Hx4** |  | halbhart | | **Hx5** |  |  | | **Hx6** |  | 3/4 hart | | **Hx7** |  |  | | **Hx8** |  | hart | | **Hx9** |  | > 10 Mpa +8 |     **3. Besondere Behandlungsverfahren**    **z.B. H 112**  Gilt für Erzeugnisse, die durch Warmumfomung oder ein begrenztes Maß an Kaltumformung eine bestimmte Festigkeit erlangen können und für welche Grenzwerte der mechanischen Eigenschaften vorliegen.    **z.B. H 111**  Gilt für Erzeugnisse, die nach dem Fertigglühen soweit kaltverfestigt werden, daß sie nicht mehr als weichgeglüht eingestuft werden können, jedoch nicht so stark und so gleichmäßig kaltverfestigt sind, um eine bestimmte Mindestfestigkeit zu erreichen.    **Aushärtbare Werkstoffe**    **T** - Wärmebehandelt auf andere Zustände als F, 0 oder H Bezeichnung gilt für Erzeugnisse, die zur Erzielung stabiler Zustände mit oder ohne zusätzliche Kaltverformung wärmebehandelt werden. An das T schließen sich immer eine oder mehrere Ziffern an, die eine spezifische Reihenfolge der Behandlung zeigen.     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  | | --- | --- | | **Erste Ziffer** | | | **z.B. T4** | Lösungsgeglüht und kaltausgelagert | | **z.B. T5** | Abgeschreckt und warmausgelagert | | **z.B. T6** | Lösungsgeglüht und warmausgelagert | | **z.B. T64** | wie T6, anderer Grad der Wärmeintensität | | **z.B. T66** | wie T6, anderer Grad der Wärmeintensität | | **z.B. T7** | Lösungsgeglüht und überhärtet / stabilisiert | |  | zur Erzielung: | |  | \* optimaler Resistenz gegen Spannungsrißkorrosion  \* optimale Bruchzähigkeit  \* optimaler Resistenz gegen Schichtkorrosion | |  | |  | |  |  | | --- | --- | | **Bedeutung der Überhärtung** | | | Rm | T79 > T76 > T74 > T73 | | Spannungrißkorrosion | T79 < T76 < T74 < T73 | | Bruchzähigkeit | T79 < T76 < T74 < T73 | | Schichtkorrosion | T79 < T76 < T74 < T73 | |      |  |  | | --- | --- | | **Zweite und dritte Ziffer** | | | **Tx51 oder Txx51** | Entspannt durch Recken | | **Tx510 oder Txx510** | Entspannt durch Recken | | **Tx511 oder Txx511** | Entspannt durch Recken, mit Nachrichtung | | **Tx52 oder Txx52** | Entspannt durch bleibende Stauchung | | **Tx54 oder Txx54** | Entspannt durch kombiniertes Recken und Stauchen |     **3. Änderung des Testverfahrens zur Ermittlung technologischer Werte**    Die Meßmethode zur Definition der Zugfestigkeit für Wandstärken bis zu 12,5 mm ist geändert. Lediglich eine konstante Meßlänge von 50 mm ist zulässig. Dies bedeutet, daß keine Unterschiede der gemessenen Werte für Dehngrenze und Zugfestigkeit feststellbar sind, die Werte der duktile Dehnung sich jedoch ändern.    Dies erklärt die sehr geringen Unterschiede in den Dehnwerten innerhalb des genannten Maßbereiches. Über einer Wanddicke von 12,5 mm ist kein Unterschied zwischen den EN und DIN Werten feststellbar.    **4. Strangpreßprofile: Vergleich der wichtigsten Legierungen Europäischer Standard - DIN**     |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Werkstoffe aushärtbar** | |  | **Werkstoffe nicht aushärtbar** | | | **DIN** | **EN** | **DIN** | **EN** | | [**AlCuMgPb**](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#L1) | [**EN AW 2007**](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#L1) | [**AL99,5**](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#L2) | [**EN AW 1050 A**](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#L2) | | [**AlCuBiPb**](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#L3) | [**EN AW 2011**](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#L3) | [**AlMg4,5Mn**](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#L4) | [**EN AW 5083**](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#L4) | | [**AlCuMg1**](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#L5) | [**EN AW 2017 A**](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#L5) | [**AlMg3**](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#L6) | [**EN AW 5754**](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#L6) | | [**AlMgSi0,7**](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#L7) | [**EN AW 6005 A**](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#L7) |  |  | | [**AlMgSi0,5**](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#L8) | [**EN AW 6060**](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#L8) |  |  | | [**AlMgSi0,5**](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#L9) | [**EN AW 6063**](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#L9) |  |  | | [**AlMgSi1**](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#L10) | [**EN AW 6082**](http://www.mejo.de/metallexikon_europaeische_normen_festigkeitseigenschaften_aluminium_rohre.asp#L10) |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **EN AW 1050 A / Al99,5** | | | **nicht aushärtbar** | | | | | | **EN 573 Teil 3** | | **EN 754, 755 / DIN 1746** | | | | | | | **DIN 1725 Teil 1** | **gepreßt (P)** | **Zustand** | **Abmessungen** | **Rm** | **Rp0,2** | **EN : A min [%]** | **EN : A50 min [%]** | | **Legierung** | **gezogen (Z)** |  | **Wanddicke  in mm** | **min (N/mm2) -** | **min (N/mm2)** | **DIN: A5 min [%]** | **DIN : A10 min [%]** | |  |  |  |  | **max (N/mm2)** | **max (N/mm2)** |  |  | | **EN AW 1050 A** | P | F, H112 | alle | 60 - 100 | 20 - 60 | 25 | 23 | | P | 0, H111 | alle | 60 - 95 | 20 - 60 | 25 | 23 | | Z | 0, H111 | <= 20 | 60 - 95 | 20 - 60 | 25 | 22 | | Z | H14 | <= 10 | 100 - 135 | 70 - 130 | 6 | 5 | | Z | H16 | <= 5 | 125 - 160 | 105 - 150 | 4 | 3 | | Z | H18 | <= 3 | 145 - 180 | 125 - 170 | 3 | 3 | | **Al99,5** |  | F7 | >= 2,5 | 65 - 100 | 20 - 60 | 25 |  | |  | F10 | >=6 | 100 - 140 | 70 - 130 | 6 |  | |  | | | | | | | | | **EN AW 5754 / AlMg3** | | | **nicht aushärtbar** | | | | | | **EN 573 Teil 3** | | **EN 754, 755 / DIN 1746** | | | | | | | **DIN 1725 Teil 1** | **gepreßt (P)** | **Zustand** | **Abmessungen** | **Rm** | **Rp0,2** | **EN : A min [%]** | **EN : A50 min [%]** | | **Legierung** | **gezogen (Z)** |  | **Wanddicke  in mm** | **min (N/mm2) -** | **min (N/mm2)** | **DIN: A5 min [%]** | **DIN : A10 min [%]** | |  |  |  |  | **max (N/mm2)** | **max (N/mm2)** |  |  | | **EN AW 5754** | P | F, H112 | <= 25 | 180 - 250 | 80 - 160 | 14 | 12 | | P | 0, H111 | <= 25 | 180 - 250 | 80 - 150 | 17 | 15 | | Z | 0, H111 | <= 20 | 180 - 250 | 80 - 150 | 16 | 14 | | Z | H14, 24, 34 | <= 10 | 240 - 290 | 180 - 250 | 4 | 3 | | Z | H18, 28, 38 | <= 3 | 280 - 310 | 240 - 300 | 3 | 2 | | **AlMg3** |  | F18 | >= 3 | 180 - 230 | 80 - 150 | 14 |  | |  | W18 | <= 10 | 180 - 230 | 80 - 150 | 17 |  | |  | - | <= 4 | 220 - 260 | 150 - 220 | 9 |  | |  | | | | | | | | | **EN AW 5083/ / AlMg4,5Mn** | | | **nicht aushärtbar** | | | | | | **EN 573 Teil 3** | | **EN 754, 755 / DIN 1746** | | | | | | | **DIN 1725 Teil 1** | **gepreßt (P)** | **Zustand** | **Abmessungen** | **Rm** | **Rp0,2** | **EN : A min [%]** | **EN : A50 min [%]** | | **Legierung** | **gezogen (Z)** |  | **Wanddicke  in mm** | **min (N/mm2) -** | **min (N/mm2)** | **DIN: A5 min [%]** | **DIN : A10 min [%]** | |  |  |  |  | **max (N/mm2)** | **max (N/mm2)** |  |  | | **EN AW 5083** | P | F, H112 | alle | 270 - 350 | 110 - 220 | 12 | 10 | | P | 0, H111 | alle | 270 - 350 | 110 - 200 | 14 | 12 | | Z | 0, H111 | <= 20 | 270 - 350 | 110 - 200 | 16 | 14 | | Z | H12, 22, 32 | <= 10 | 280 - 360 | 200 - 270 | 6 | 4 | | Z | H14, 24, 34 | <= 5 | 300 - 380 | 235 - 310 | 4 | 3 | |  | F7 | >=3,5 | 270 - 350 | 140 - 220 | 12 |  | |  | W27 | bis 10 | 270 - 350 | 110 - 200 | 14 |  | | **AlMg4,5Mn** |  |  |  |  |  |  |  | |  | | | | | | | | | **EN AW 6060 / AlMgSi0,5** | | | **aushärtbar** | | | | | | **EN 573 Teil 3** | | **EN 754, 755 / DIN 1746** | | | | | | | **DIN 1725 Teil 1** | **gepreßt (P)** | **Zustand** | **Abmessungen** | **Rm** | **Rp0,2** | **EN : A min [%]** | **EN : A50 min [%]** | | **Legierung** | **gezogen (Z)** |  | **Wanddicke  in mm** | **min (N/mm2) -** | **min (N/mm2)** | **DIN: A5 min [%]** | **DIN : A10 min [%]** | |  |  |  |  | **max (N/mm2)** | **max (N/mm2)** |  |  | | **EN AW 6060** | P | T4 | <= 15 | 120 - 210 | 60 - 130 | 16 | 14 | | Z | T4 | <= 5 | 130 - 210 | 65 - 130 | 12 | 10 | | Z | T4 | > 5 - 20 | 130 - 210 | 65 - 130 | 15 | 13 | | P | T5 | <= 15 | 160 - 270 | 120 - 230 | 8 | 6 | | P | T64 | <= 15 | 180 - 250 | 120 - 200 | 12 | 10 | | P | T64 | <= 15 | 190 - 270 | 150 - 230 | 8 | 6 | | Z | T64 | <= 20 | 215 - 270 | 160 - 230 | 12 | 10 | | P | T66 | <= 15 | 215 - 270 | 160 - 230 | 8 | 6 | | **AlMgSi0,5** |  | F13 | alle | 130 - 180 | 65 - 130 | 15 |  | |  | F22 | alle | 215 - 260 | 160 - 230 | 12 |  | |  | F25 | <= 10 | 245 - 300 | 195 - 285 | 10 |  | |  | | | | | | | | | **EN AW 6063 / AlMgSi0,5** | | | **aushärtbar** | | | | | | **EN 573 Teil 3** | | **EN 754, 755 / DIN 1746** | | | | | | | **DIN 1725 Teil 1** | **gepreßt (P)** | **Zustand** | **Abmessungen** | **Rm** | **Rp0,2** | **EN : A min [%]** | **EN : A50 min [%]** | | **Legierung** | **gezogen (Z)** |  | **Wanddicke  in mm** | **min (N/mm2) -** | **min (N/mm2)** | **DIN: A5 min [%]** | **DIN : A10 min [%]** | |  |  |  |  | **max (N/mm2)** | **max (N/mm2)** |  |  | | **EN AW 6063** | P | 0, H111 | <=25 | 80 - 130 | 50 - 100 | 18 | 16 | | Z | 0, H111 | <= 20 | 80 - 155 | 50 - 100 | 20 | 15 | | P | T4 | <= 10 | 130 - 210 | 65 - 180 | 14 | 12 | | P | T4 | > 10-25 | 120 - 210 | 65 - 180 | 12 | 10 | | Z | T4 | <= 5 | 150 - 210 | 75 - 180 | 12 | 10 | | Z | T4 | > 5 - 20 | 150 - 210 | 75 - 180 | 15 | 13 | | P | T5 | <= 25 | 175 - 300 | 130 - 280 | 8 | 6 | | P | T6 | <= 25 | 215 - 300 | 170 - 280 | 10 | 8 | | Z | T6 | <= 20 | 220 - 300 | 190 - 280 | 10 | 8 | | P | T66 | <= 25 | 245 - 300 | 200 - 280 | 10 | 8 | | Z | T66 | <= 20 | 230 - 300 | 195 - 280 | 10 | 8 | | Z | T832 | <= 5 | 275 - 320 | 240 - 300 | 5 | 3 | | **AlMgSi0,5** | nicht genormt | nicht genormt | nicht genormt | nicht genormt | nicht genormt | nicht genormt | nicht genormt | |  | | | | | | | | | **En AW 6005 A / AlMgSi0,7** | | | **aushärtbar** | | | | | | **EN 573 Teil 3** | | **EN 754, 755 / DIN 1746** | | | | | | | **DIN 1725 Teil 1** | **gepreßt (P)** | **Zustand** | **Abmessungen** | **Rm** | **Rp0,2** | **EN : A min [%]** | **EN : A50 min [%]** | | **Legierung** | **gezogen (Z)** |  | **Wanddicke  in mm** | **min (N/mm2) -** | **min (N/mm2)** | **DIN: A5 min [%]** | **DIN : A10 min [%]** | |  |  |  |  | **max (N/mm2)** | **max (N/mm2)** |  |  | | **En AW 6005 A** | P | T6 | <= 5 | 270 - 330 | 225 - 300 | 8 | 6 | | P | T6 | > 5 - 10 | 260 - 330 | 215 - 300 | 8 | 6 | | **AlMgSi0,7** |  | F26 | <= 6 | 260 - 320 | 220 - 290 | 8 |  | |  | | | | | | | | | **En AW 6082 / AlMgSi1** | | | **aushärtbar** | | | | | | **EN 573 Teil 3** | | **EN 754, 755 / DIN 1746** | | | | | | | **DIN 1725 Teil 1** | **gepreßt (P)** | **Zustand** | **Abmessungen** | **Rm** | **Rp0,2** | **EN : A min [%]** | **EN : A50 min [%]** | | **Legierung** | **gezogen (Z)** |  | **Wanddicke  in mm** | **min (N/mm2) -** | **min (N/mm2)** | **DIN: A5 min [%]** | **DIN : A10 min [%]** | |  |  |  |  | **max (N/mm2)** | **max (N/mm2)** |  |  | | **En AW 6082** | P | 0, H111 | <= 25 | 100 - 160 | 50 - 110 | 14 | 12 | | Z | 0, H111 | <= 20 | 100 - 160 | 50 - 110 | 15 | 13 | | P / Z | T4 | <= 25 | 205 - 280 | 110 - 200 | 14 | 12 | | P | T6 | <= 5 | 290 - 370 | 250 - 350 | 8 | 6 | | P | T6 | > 5 - 25 | 310 - 370 | 260 - 350 | 10 | 8 | | Z | T6 | <= 5 | 310 - 370 | 255 - 350 | 8 | 7 | | Z | T6 | > 5 - 20 | 310 - 370 | 240 - 350 | 10 | 9 | | **AlMgSi1** |  | F21 | alle | 200 - 310 | 110 - 200 | 14 |  | |  | F28 | alle | 275 - 325 | 200 - 250 | 12 |  | |  | F31 | <= 20 | 310 - 370 | 260 - 350 | 10 |  | |  | | | | | | | | | **EN AW 2017 A / AlCuMg1** | | | **aushärtbar** | | | | | | **EN 573 Teil 3** | | **EN 754, 755 / DIN 1746** | | | | | | | **DIN 1725 Teil 1** | **gepreßt (P)** | **Zustand** | **Abmessungen** | **Rm** | **Rp0,2** | **EN : A min [%]** | **EN : A50 min [%]** | | **Legierung** | **gezogen (Z)** |  | **Wanddicke  in mm** | **min (N/mm2) -** | **min (N/mm2)** | **DIN: A5 min [%]** | **DIN : A10 min [%]** | |  |  |  |  | **max (N/mm2)** | **max (N/mm2)** |  |  | | **EN AW 2017 A** | P | 0, H111 | <= 20 | 140 - 250 | 70 - 135 | 12 | 10 | | Z | 0, H111 | <= 20 | 130 - 240 | 65 - 125 | 12 | 10 | | P | T4, 4510, 4511 | <= 10 | 380 - 510 | 260 - 450 | 12 | 10 | | P | T4, 4510, 4511 | > 10 - 75 | 400 - 510 | 270 - 450 | 10 | 8 | | Z | T3 | <= 20 | 400 - 510 | 250 - 450 | 10 | 8 | | Z | T3510, 3511 | <= 20 | 400 - 510 | 250 - 450 | 8 | 6 | | **AlCuMg1** |  | F39 | <= 6 | 390 - 490 | 260 - 380 | 14 |  | |  | F37 | >=6 - 20 | 370 - 480 | 250 - 370 | 12 |  | |  | | | | | | | | | **EN AW 2007 / AlCuMgPb** | | | **aushärtbar** | | | | | | **EN 573 Teil 3** | | **EN 754, 755 / DIN 1746** | | | | | | | **DIN 1725 Teil 1** | **gepreßt (P)** | **Zustand** | **Abmessungen** | **Rm** | **Rp0,2** | **EN : A min [%]** | **EN : A50 min [%]** | | **Legierung** | **gezogen (Z)** |  | **Wanddicke  in mm** | **min (N/mm2) -** | **min (N/mm2)** | **DIN: A5 min [%]** | **DIN : A10 min [%]** | |  |  |  |  | **max (N/mm2)** | **max (N/mm2)** |  |  | | **EN AW 2007** | P | T4, 4510, 4511 | <= 25 | 370 - 470 | 250 - 330 | 8 | 6 | | Z | T3 | <= 20 | 370 - 470 | 250 - 330 | 7 | 5 | | Z | T3510, 3511 | <= 20 | 370 - 470 | 250 - 330 | 5 | 3 | | **AlCuMgPb** |  |  | >6 - 20 | 360 - 440 | 230 - 320 | 8 |  | |  | | | | | | | | | **EN AW 2011 / AlCuBiPb** | | | **aushärtbar** | | | | | | **EN 573 Teil 3** | | **EN 754, 755 / DIN 1746** | | | | | | | **DIN 1725 Teil 1** | **gepreßt (P)** | **Zustand** | **Abmessungen** | **Rm** | **Rp0,2** | **EN : A min [%]** | **EN : A50 min [%]** | | **Legierung** | **gezogen (Z)** |  | **Wanddicke  in mm** | **min (N/mm2) -** | **min (N/mm2)** | **DIN: A5 min [%]** | **DIN : A10 min [%]** | |  |  |  |  | **max (N/mm2)** | **max (N/mm2)** |  |  | | **EN AW 2011** | Z | T3 | <= 5 | 310 - 390 | 260 - 350 | 10 | 8 | | Z | T3 | > 5 - 20 | 290 - 390 | 240 - 350 | 8 | 6 | | P | T6 | <= 25 | 310 - 400 | 230 - 350 | 6 | 4 | | Z | T8 | <= 20 | 370 - 440 | 275 - 360 | 8 | 6 | | **AlCuBiPb** |  | F37 | <= 20 | 370 - 440 | 270 - 320 | 8 |  |  |  | | --- | | 1) zum Biegen geeignet  2) Für umschriebenen Kreis >250 mm A5>8%; A10>6% 3) Zustand "F": Werte nur zur Information 5) Werte nach DIN 40501 T3  6) Festigkeitswerte nicht in EN755-2 nur zur Information,  Die Tabelle erhebt keinen Anspruch auf Vollständigkeit und stellt keine Zusicherung von Eigenschaften dar. Die Angaben gelten nur für einen Vergleich der aufgeführten Werkstoffe untereinander, jedoch nicht für eine Bewertung gegenüber anderen Metallen. | | |