

MECHANICAL STRENGTH VALUES

Sample calculation

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HYPOTHESIS: Static Pressure Load

Calculation of deformation under pressure at maximum allowable tension, assuming risk classification value equals 1 and static load



Your Partner for Precision.

$$\varepsilon_d = \frac{\Delta l}{l_0} = \frac{l_0 - l}{l_0} = \frac{\sigma_d}{E} = \frac{F_d}{E A}$$

l_0 = Height of sample 2,0 mm

Δl = Deformation by compression (sought)

E = E - Modul of M - Tech®L Sample, stainless steel type C

σ_d = Yield point of M - Tech®L, Type C

$$\varepsilon_{d \text{ M-Tech}^\circ\text{L}} = \frac{\sigma_d}{E} = \frac{192 \text{ MPa}}{29.137 \text{ Mpa}} = 0,0066$$

$$\varepsilon_d = \frac{\Delta l}{l_0} \Rightarrow \varepsilon_d \times l_0 = 0,0132 \text{ mm deformation by compression}$$

MECHANICAL STRENGTH VALUES

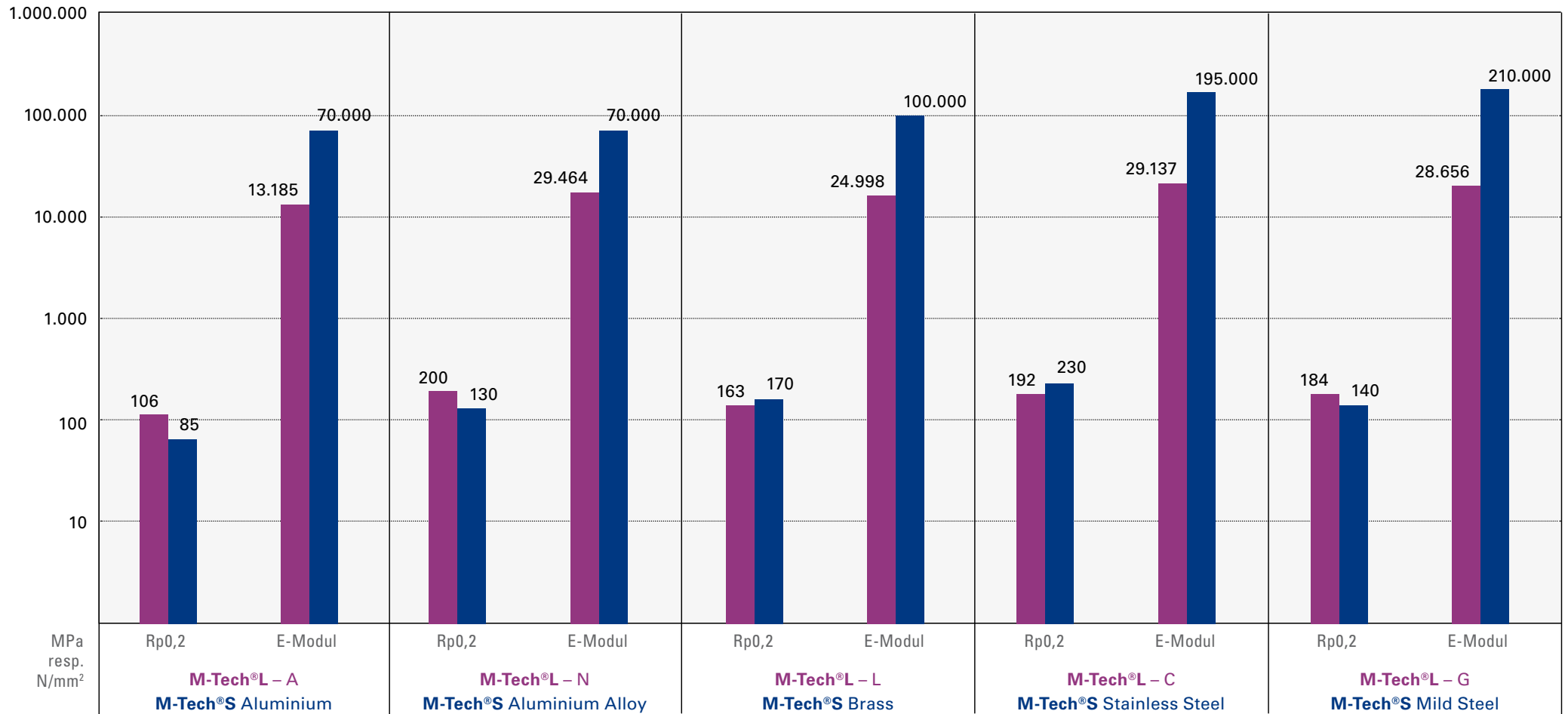
M-Tech® Laminated sheets with foil thickness of 0.05 mm



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COMPARISON: M-Tech®L 2,0 mm (foil thickness 0.05 mm) / M-Tech®S 2,0 mm (hard-rolled), see Page 4 for Rp0,2 resp. Rm values
 Test executed by the Staatlichen Materialprüfungsanstalt in Darmstadt, Germany (23.04.2008)



MECHANICAL STRENGTH VALUES

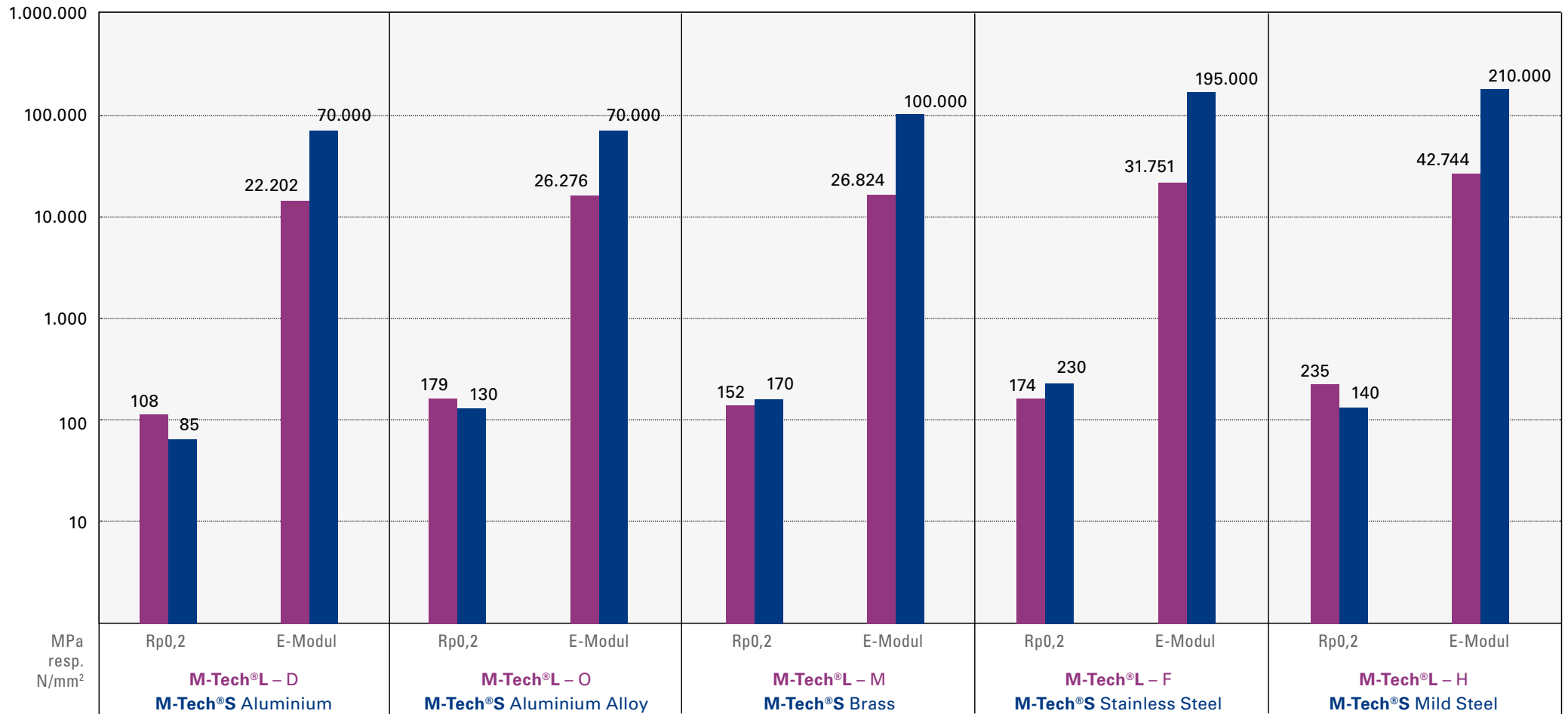
M-Tech® Laminated sheets with foil thickness of 0.075 mm



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COMPARISON: M-Tech®L 2,0 mm (foil thickness 0.075 mm) / M-Tech®S 2,0 mm (hard-rolled), see Page 4 for Rp0,2 resp. Rm values
 Test executed by the Staatlichen Materialprüfungsanstalt in Darmstadt, Germany (23.04.2008)



MECHANICAL STRENGTH VALUES

Table 3

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EN - Norm	Dicke <i>Thickness</i> [mm]	Werkstoffnr. <i>Material number</i>	Rp0,2 (resp. Rm) [MPa]
10088-2	2,0	1.4301	Min. 230
10130/10131	2,0	DC 04	Min. 140
485-2	2,0	Al 99,5-H14	Min. 85
485-2	2,0	AIMG 3-H22/H32	Min. 130
1652	2,0	CuZn37-R 350	Min. 170