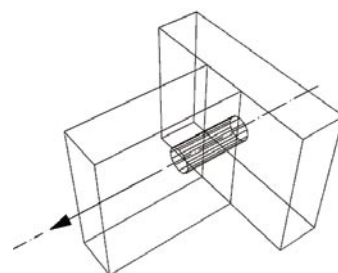


Mean tensile-breaking strength				
Material	Invis 8 mm ⁴⁾		Invis 12 mm ⁴⁾	
Chipboard ¹⁾	13 mm	562 N	19 mm	899 N
MDF ²⁾	16 mm	1009 N	19 mm	1549 N
Blockboard ³⁾	13 mm	923 N	19 mm	1629 N
Solid pine	13 mm	673 N	19 mm	1077 N
Solid beech	13 mm	2088 N	19 mm	3511 N



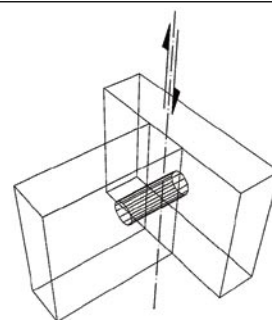
¹⁾ swissSPAN Standard V20, manufacturer: Kronospan AG, Switzerland

²⁾ MDF similar E1, manufacturer: Tavapan SA, Switzerland

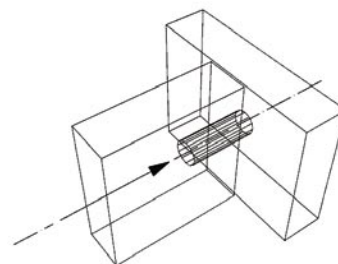
³⁾ Blockboard, poplar, board type ST, type IF with triple structure, manufacturer: W. Mende & Co., Germany

⁴⁾ The threaded stud ripped out of the material before the connector.

Mean shear-breaking strength				
Material	Invis 8 mm		Invis 12 mm	
Solid beech	15 mm	2813 N	22.5 mm	4053 N
Multiplex beech	16 mm	2392 N	22.5 mm	4193 N



Mean tightening force ⁵⁾				
Material ⁶⁾	Invis 8 mm		Invis 12 mm	
Plastic (POM) ⁷⁾	13 mm	292 N	19 mm	836 N
Plastic (POM) ⁷⁾	16 mm	315 N	42 mm	555 N



⁵⁾ The joiner was installed centrally. With most of the test samples 70 – 80% of the mean tightening force was achieved in 5 –10 seconds. Up to 40 seconds are necessary to achieve the values shown here.

⁶⁾ Comparative measurements in solid wood did not produce any significant deviations from the values in POM.

⁷⁾ POM = Polyoximethylen

Comments:

- The Tests were carried out with the studs with wood thread Art.-No. 6008106 and 6012106.
- 10 N ("Newton") corresponds to 1 kg (kilogram) or 2,25 lbf (pound force)
- The data in this data sheet are based on test reports nos. 6684-PB-01 and 6699-PB-01 of the Swiss Timber Industry College, SH-Holz, CH-2504 Biel, prepared by instruction of Lamello AG.
- The above values in N are measured mean breaking values and in no way represent guaranteed minimum or maximum values! Differences can occur depending on the installation accuracy and timber products used.
- The values in this data sheet cannot therefore be used as a basis for static calculations of timber structures with Invis.

Mean tensile-breaking strength¹⁾ with Ergo 5713²⁾

Material	Invis 8 mm		Invis 12 mm	
	Length	Strength	Length	Strength
Chipboard	16 mm	1540 N	19 mm	2160 N
MDF	16 mm	1724 N	19 mm	2609 N
High pressure laminate board	10 mm	1573 N	x	x
Beech longitudinal to the fiber	19 mm	1551 N	19 mm	2747 N
Pine longitudinal to the fiber	19 mm	1748 N	19 mm	3126 N

¹⁾ Tensile-breaking strength determined after 45 minutes

²⁾ Cyanacrylat, manufacturer: Kisling AG, Tagelswangen, Switzerland

Mean tensile-breaking strength³⁾ with Mirapur 9500 speed⁴⁾

Material	Invis 8 mm		Invis 12 mm	
	Length	Strength	Length	Strength
Chipboard	16 mm	1630 N	19 mm	1992 N
MDF	16 mm	1923 N	19 mm	2526 N
High pressure laminate board	10 mm	1147 N	x	x
Beech longitudinal to the fiber	19 mm	1979 N	19 mm	2600 N
Pine longitudinal to the fiber	19 mm	1443 N	19 mm	2791 N

³⁾ Tensile-breaking strength determined after 24 hours

⁴⁾ PUR, manufacturer: Geistlich, Schlieren, Switzerland

Mean tensile-breaking strength⁵⁾ with Casapur rapid⁶⁾

Material	Invis 8 mm		Invis 12 mm	
	Length	Strength	Length	Strength
Chipboard	16 mm	1313 N	19 mm	1818 N
MDF	16 mm	1318 N	19 mm	2245 N
High pressure laminate board	10 mm	1555 N	x	x
Beech longitudinal to the fiber	19 mm	1537 N	19 mm	2544 N
Pine longitudinal to the fiber	19 mm	1231 N	19 mm	2189 N

⁵⁾ Tensile-breaking strength determined after 24 hours

⁶⁾ PUR, manufacturer: Casanin AG, Buchrain

Comments:

- The tests were carried out with studs with metric threads Art. No. 6008006 and 6012106.
- 10 N ("Newton") corresponds to 1 kg (kilogram) or 2,25 lbf (pound force)
- The above values in N are measured mean breaking values and in no way represent guaranteed minimum or maximum values! Differences can occur depending on the installation accuracy and timber products.
- The values in this data sheet cannot therefore be used as a basis for static calculations of timber structures with Invis.