Frame extension elements for wooden and wood-metal lifting sliding doors
Sound insulation

SOUND INSULATION 1 UNTREATED

Cover panel and surface	**Chipboard P5, E1, untreated, 10 mm** (PEFC-certified)
Thermal insulation	**Glass wool, 20 kg/m³, 93–200 mm**
Bonding	Water-resistant D3 (EN 204-D3)
Edge band	**Plywood, circumferential** Special edge bands can be inset according to your requirements
Edge milling	**All possible CNC edge profile work is performed on all sides according to your profile specifications** Special CNC processing like cut-outs, ventilation slots or surface grooves are also possible
Thicknesses	**Thicknesses from 113 mm to 220 mm can be produced** For thicknesses below 113 mm, see frame extension elements for wooden and wood-metal windows
Formats	**All formats from 500 × 95 mm to 3588 × 1294 mm can be produced**

Element thicknesses from 113 mm to 220 mm can be produced. For further U-value calculations, please contact our consultants.

Element thickness	**mm**	**113**	**120**	**130**	**140**	**150**	**160**	**170**	**180**	**190**	**200**	**210**	**220**
Cover board thickness	**mm**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Thermal insulation thickness	mm	93	100	110	120	130	140	150	160	170	180	190	200
U-value	**W/m²K**	**0.337**	**0.315**	**0.289**	**0.267**	**0.248**	**0.232**	**0.217**	**0.205**	**0.193**	**0.183**	**0.174**	**0.166**
Airborne sound insulation	**40 dB**, element thickness: 165 mm; test surface: 1.9 m² (download test reports)												
Weight	kg/m²	16.6	16.8	17.0	17.2	17.4	17.6	17.8	18.0	18.2	18.4	18.5	18.8

Cover panel and surface	**Biofaser Hydropan BF-STX hardboard, untreated, 8 mm** (certified FSC, PEFC, CE)
Thermal insulation	**Glass wool, 20 kg/m³, 97–204 mm**
Bonding	Water-resistant D3 (EN 204-D3)
Edge band	**Spruce, circumferential or on the longitudinal edges** (PEFC-certified) Other types of wood available; special edge bands can be inset according to your requirements
Edge milling	**All possible CNC edge profile work is performed on all sides according to your profile specification** Special CNC processing such as cut-outs, round and segment arches, ventilation slots or surface grooves are also possible
Thicknesses	**Thicknesses from 113 mm to 220 mm can be produced** For thicknesses below 113 mm, see frame extension elements for wooden and wood-metal windows
Formats	**All formats from 500 × 95 mm to 3588 × 1294 mm can be produced**

Element thicknesses from 113 mm to 220 mm can be produced. For further U-value calculations, please contact our consultants.

Element thickness	**mm**	**113**	**120**	**130**	**140**	**150**	**160**	**170**	**180**	**190**	**200**	**210**	**220**
Cover panel thickness	**mm**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**
Thermal insulation thickness	mm	97	104	114	124	134	144	154	164	174	184	194	204
U-value	**W/m²K**	**0.327**	**0.307**	**0.282**	**0.261**	**0.243**	**0.227**	**0.213**	**0.201**	**0.190**	**0.180**	**0.172**	**0.164**
Airborne sound insulation	**40 dB,** element thickness: 165 mm; test surface: 1.9 m² (download test reports)												
Weight	kg/m²	16.3	16.5	16.7	16.9	17.1	17.3	17.5	17.7	17.9	18.1	18.3	18.5

SOUND INSULATION 2 UNTREATED

Cover panel and surface	**Chipboard P5, E1, untreated, 10 mm** (PEFC-certified)
Thermal insulation	**Glass wool, 20 kg/m³, 88–195 mm**
Sound insulation	**1 piece of heavy bitumen foil, 5 mm**
Bonding	Water-resistant D3 (EN 204-D3)
Edge band	**Plywood, circumferential** Special edge bands can be inset according to your requirements
Edge milling	**All possible CNC edge profile work is performed on all sides according to your profile specifications** Special CNC processing like cut-outs, ventilation slots or surface grooves are also possible
Thicknesses	**Thicknesses from 113 mm to 220 mm can be produced** For thicknesses below 113 mm, see frame extension elements for wooden and wood-metal windows
Formats	**All formats from 500 × 95 mm to 3588 × 1294 mm can be produced**

Element thicknesses from 113 mm to 220 mm can be produced. For further U-value calculations, please contact our consultants.

Element thickness	**mm**	**113**	**120**	**130**	**140**	**150**	**160**	**170**	**180**	**190**	**200**	**210**	**220**
Cover board thickness	**mm**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Thermal insulation thickness	mm	88	95	105	115	125	135	145	155	165	175	185	195
Sound insulation thickness	mm	5	5	5	5	5	5	5	5	5	5	5	5
U-value	**W/m²K**	**0.352**	**0.329**	**0.301**	**0.277**	**0.257**	**0.239**	**0.224**	**0.210**	**0.199**	**0.188**	**0.178**	**0.170**
Airborne sound insulation	**46 dB,** element thickness: 165 mm; test surface: 1.9 m² (download test reports)												
Weight	kg/m²	26.6	26.7	26.9	27.1	27.3	27.5	27.7	27.9	28.1	28.3	28.5	28.7

Cover panel and surface	**Biofaser Hydropan BF-STX hardboard, untreated, 8 mm** (certified FSC, PEFC, CE)
Thermal insulation	**Glass wool, 20 kg/m³, 92–199 mm** Other types of thermal insulation such as expanded rigid polystyrene foam with graphite additive (EPS lambda), glass wool, cork, etc., are also available
Bonding	Water-resistant D3 (EN 204-D3)
Edge band	**Spruce, circumferential or on the longitudinal edges** (PEFC-certified) Other types of wood available; special edge bands can be inset according to your requirements
Edge milling	**All possible CNC edge profile work is performed on all sides according to your profile specifications** Special CNC processing such as cut-outs, round and segment arches, ventilation slots or surface grooves are also possible
Thicknesses	**Thicknesses from 113 mm to 220 mm can be produced** For thicknesses below 113 mm, see frame extension elements for wooden and wood-metal windows
Formats	**All formats from 500 × 95 mm to 3588 × 1294 mm can be produced**

Element thicknesses from 113 mm to 220 mm can be produced. For further U-value calculations, please contact our consultants.

Element thickness	**mm**	**113**	**120**	**130**	**140**	**150**	**160**	**170**	**180**	**190**	**200**	**210**	**220**
Cover panel thickness	**mm**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**
Thermal insulation thickness	mm	92	99	109	119	129	139	149	159	169	179	189	199
Sound insulation thickness	mm	5	5	5	5	5	5	5	5	5	5	5	5
U-value	**W/m²K**	**0.342**	**0.320**	**0.293**	**0.271**	**0.251**	**0.234**	**0.220**	**0.207**	**0.195**	**0.185**	**0.176**	**0.167**
Airborne sound insulation	**46 dB,** element thickness: 165 mm; test surface: 1.9 m² (download test reports)												
Weight	kg/m²	26.2	26.4	26.6	26.8	27.0	27.2	27.4	27.6	27.8	28.0	28.2	28.4

SOUND INSULATION 1 PRIMER FOIL

Cover panel and surface	**Chipboard P5, E1, with white primer foil, 10 mm** (PEFC-certified)
Thermal insulation	**Glass wool, 20 kg/m³, 93–200 mm**
Bonding	Water-resistant D3 (EN 204-D3)
Edge band	**Plywood, circumferential** Special edge bands can be inset according to your requirements
Edge milling	**All possible CNC edge profile work is performed on all sides according to your profile specifications** Special CNC processing like cut-outs, ventilation slots or surface grooves are also possible
Thicknesses	**Thicknesses from 113 mm to 220 mm can be produced** For thicknesses below 113 mm, see frame extension elements for wooden and wood-metal windows
Formats	**All formats from 500 × 95 mm to 3588 × 1294 mm can be produced**

Element thicknesses from 113 mm to 220 mm can be produced. For further U-value calculations, please contact our consultants.

Element thickness	**mm**	**113**	**120**	**130**	**140**	**150**	**160**	**170**	**180**	**190**	**200**	**210**	**220**
Cover board thickness	**mm**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Thermal insulation thickness	mm	93	100	110	120	130	140	150	160	170	180	190	200
U-value	**W/m²K**	**0.337**	**0.315**	**0.289**	**0.267**	**0.248**	**0.232**	**0.217**	**0.205**	**0.193**	**0.183**	**0.174**	**0.166**
Airborne sound insulation	**40 dB**, element thickness: 165 mm; test surface: 1.9 m² (download test reports)												
Weight	kg/m²	16.6	16.8	17.0	17.2	17.4	17.6	17.8	18.0	18.2	18.4	18.6	18.8

Cover panel and surface	**Medium-density fibreboard (MDF) P3, E1, with white primer foil, 10 mm**
Thermal insulation	**Glass wool, 20 kg/m³, 93–200 mm**
Bonding	Water-resistant D3 (EN 204-D3)
Edge band	**Plywood, circumferential** Special edge bands can be inset according to your requirements
Edge milling	**All possible CNC edge profile work is performed on all sides according to your profile specifications** Special CNC processing like cut-outs, ventilation slots or surface grooves are also possible
Thicknesses	**Thicknesses from 113 mm to 220 mm can be produced** For thicknesses below 113 mm, see frame extension elements for wooden and wood-metal windows
Formats	**All formats from 500 × 95 mm to 3588 × 1294 mm can be produced**

Element thicknesses from 113 mm to 220 mm can be produced. For further U-value calculations, please contact our consultants.

Element thickness	**mm**	**113**	**120**	**130**	**140**	**150**	**160**	**170**	**180**	**190**	**200**	**210**	**220**
Cover board thickness	**mm**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Thermal insulation thickness	mm	93	100	110	120	130	140	150	160	170	180	190	200
U-value	**W/m²K**	**0.330**	**0.310**	**0.285**	**0.263**	**0.245**	**0.229**	**0.215**	**0.202**	**0.191**	**0.181**	**0.172**	**0.164**
Airborne sound insulation	**40 dB**, element thickness: 165 mm; test surface: 1.9 m² (download test reports)												
Weight	kg/m²	16.6	16.8	17.0	17.2	17.4	17.6	17.8	18.0	18.2	18.4	18.6	18.8

SOUND INSULATION 2 PRIMER FOIL

Cover panel and surface	**Chipboard P5, E1, with white primer foil, 10 mm** (PEFC-certified)
Thermal insulation	**Glass wool, 20 kg/m³, 88–195 mm**
Sound insulation	**1 piece of heavy bitumen foil, 5 mm**
Bonding	Water-resistant D3 (EN 204-D3)
Edge band	**Plywood, circumferential** Special edge bands can be inset according to your requirements
Edge milling	**All possible CNC edge profile work is performed on all sides according to your profile specifications** Special CNC processing like cut-outs, ventilation slots or surface grooves are also possible
Thicknesses	**Thicknesses from 113 mm to 220 mm can be produced** For thicknesses below 113 mm, see frame extension elements for wooden and wood-metal windows
Formats	**All formats from 500 × 95 mm to 3588 × 1294 mm can be produced**

Element thicknesses from 113 mm to 220 mm can be produced. For further U-value calculations, please contact our consultants.

Element thickness	**mm**	**113**	**120**	**130**	**140**	**150**	**160**	**170**	**180**	**190**	**200**	**210**	**220**
Cover board thickness	**mm**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Thermal insulation thickness	mm	88	95	105	115	125	135	145	155	165	175	185	195
Sound insulation thickness	mm	5	5	5	5	5	5	5	5	5	5	5	5
U-value	**W/m²K**	**0.352**	**0.329**	**0.301**	**0.277**	**0.257**	**0.239**	**0.224**	**0.210**	**0.199**	**0.188**	**0.178**	**0.170**
Airborne sound insulation	**46 dB**, element thickness: 165 mm; test surface: 1.9 m² (download test reports)												
Weight	kg/m²	26.6	26.7	26.9	27.1	27.3	27.5	27.7	27.9	28.1	28.3	28.5	28.7

Cover panel and surface	**Medium-density fibreboard (MDF) P3, E1, with white primer foil, 10 mm**
Thermal insulation	**Glass wool, 20 kg/m³, 88–195 mm**
Sound insulation	**1 piece of heavy bitumen foil, 5 mm**
Bonding	Water-resistant D3 (EN 204-D3)
Edge band	**Plywood, circumferential** Special edge bands can be inset according to your requirements
Edge milling	**All possible CNC edge profile work is performed on all sides according to your profile specifications** Special CNC processing like cut-outs, ventilation slots or surface grooves are also possible
Thicknesses	**Thicknesses from 113 mm to 220 mm can be produced** For thicknesses below 113 mm, see frame extension elements for wooden and wood-metal windows
Formats	**All formats from 500 × 95 mm to 3588 × 1294 mm can be produced**

Element thicknesses from 113 mm to 220 mm can be produced. For further U-value calculations, please contact our consultants.

Element thickness	**mm**	**113**	**120**	**130**	**140**	**150**	**160**	**170**	**180**	**190**	**200**	**210**	**220**
Cover board thickness	**mm**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Thermal insulation thickness	mm	88	95	105	115	125	135	145	155	165	175	185	195
Sound insulation thickness	mm	5	5	5	5	5	5	5	5	5	5	5	5
U-value	**W/m²K**	**0.346**	**0.323**	**0.296**	**0.273**	**0.253**	**0.236**	**0.221**	**0.208**	**0.196**	**0.186**	**0.177**	**0.168**
Airborne sound insulation	**46 dB**, element thickness: 165 mm; test surface: 1.9 m² (download test reports)												
Weight	kg/m²	26.5	26.7	26.9	27.1	27.3	27.5	27.7	27.9	28.1	28.3	28.5	28.7

SOUND INSULATION 1 VENEERED

Cover panel and surface	**Chipboard P5, E1, 10 mm, with real wood veneer (unsanded), 1 mm** (PEFC-certified) All types of real wood veneers available: spruce, pine, larch, fir, oak, etc. (FSC- or PEFC-certified) Veneer quality A/B (inside A/outside B) or A/A (inside A/outside A)
Thermal insulation	**Glass wool, 20 kg/m³, 91–198 mm**
Bonding	Water-resistant D3 (EN 204-D3)
Edge band	**Plywood, circumferential** Special edge bands can be inset according to your requirements
Edge milling	**All possible CNC edge profile work is performed on all sides according to your profile specifications** Special CNC processing like cut-outs, ventilation slots or surface grooves are also possible
Thicknesses	**Thicknesses from 113 mm to 220 mm can be produced** For thicknesses below 113 mm, see frame extension elements for wooden and wood-metal windows
Formats	**All formats from 500 × 95 mm to 3588 × 1294 mm can be produced**

Element thicknesses from 113 mm to 220 mm can be produced. For further U-value calculations, please contact our consultants.

Element thickness	**mm**	**113**	**120**	**130**	**140**	**150**	**160**	**170**	**180**	**190**	**200**	**210**	**220**
Cover board thickness	**mm**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Veneer thickness	mm	1	1	1	1	1	1	1	1	1	1	1	1
Thermal insulation thickness	mm	91	98	108	118	128	138	148	158	168	178	188	198
U-value	**W/m²K**	**0.342**	**0.320**	**0.293**	**0.270**	**0.251**	**0.234**	**0.220**	**0.207**	**0.195**	**0.185**	**0.175**	**0.167**
Airborne sound insulation	**40 dB,** element thickness: 165 mm; test surface: 1.9 m² (download test reports)												
Weight	kg/m²	17.5	17.7	17.9	18.1	18.3	18.5	18.7	18.9	19.1	19.3	19.5	19.7

Cover panel and surface	**Biofaser Hydropan BF-STX hardboard, 8 mm, untreated (unsanded), 1,4 mm** (certified FSC, PEFC, CE) All types of real wood veneers available: spruce, pine, larch, fir, oak, etc. (FSC- or PEFC-certified) Veneer quality A/B (inside A/outside B) or A/A (inside A/outside A)
Thermal insulation	**Glass wool, 20 kg/m³, 94–202 mm**
Bonding	Water-resistant D3 (EN 204-D3)
Edge band	**Spruce, circumferential or on the longitudinal edges** (PEFC-certified) Other types of wood available; special edge bands can be inset according to your requirements
Edge milling	**All possible CNC edge profile work is performed on all sides according to your profile specifications** Special CNC processing such as cut-outs, round and segment arches, ventilation slots or surface grooves are also possible
Thicknesses	**Thicknesses from 113 mm to 220 mm can be produced** For thicknesses below 113 mm, see frame extension elements for wooden and wood-metal windows
Formats	**All formats from 500 × 95 mm to 3588 × 1294 mm can be produced**

Element thicknesses from 113 mm to 220 mm can be produced. For further U-value calculations, please contact our consultants.

Element thickness	**mm**	**113**	**120**	**130**	**140**	**150**	**160**	**170**	**180**	**190**	**200**	**210**	**220**
Cover panel thickness	**mm**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**
Veneer thickness	mm	1	1	1	1	1	1	1	1	1	1	1	1
Thermal insulation thickness	mm	94	102	112	122	132	142	152	162	172	182	192	202
U-value	**W/m²K**	**0.335**	**0.311**	**0.286**	**0.264**	**0.246**	**0.230**	**0.215**	**0.203**	**0.192**	**0.182**	**0.173**	**0.165**
Airborne sound insulation	**40 dB,** element thickness: 165 mm; test surface: 1.9 m² (download test reports)												
Weight	kg/m²	17.2	17.4	17.6	17.8	18.0	18.2	18.4	18.6	18.8	19.0	19.2	19.4

SOUND INSULATION 2 VENEERED

Cover panel and surface	**Chipboard P5, E1, 10 mm, with real wood veneer (unsanded), 1 mm** (PEFC-certified) All types of real wood veneers available: spruce, pine, larch, fir, oak, etc. (FSC- or PEFC-certified) Veneer quality A/B (inside A/outside B) or A/A (inside A/outside A)
Thermal insulation	**Glass wool, 20 kg/m³, 86–193 mm**
Sound insulation	**1 piece of heavy bitumen foil, 5 mm**
Bonding	Water-resistant D3 (EN 204-D3)
Edge band	**Plywood, circumferential** Special edge bands can be inset according to your requirements
Edge milling	**All possible CNC edge profile work is performed on all sides according to your profile specifications** Special CNC processing like cut-outs, ventilation slots or surface grooves are also possible
Thicknesses	**Thicknesses from 113 mm to 220 mm can be produced** For thicknesses below 113 mm, see frame extension elements for wooden and wood-metal windows
Formats	**All formats from 500 × 95 mm to 3588 × 1294 mm can be produced**

Element thicknesses from 113 mm to 220 mm can be produced. For further U-value calculations, please contact our consultants.

Element thickness	**mm**	**113**	**120**	**130**	**140**	**150**	**160**	**170**	**180**	**190**	**200**	**210**	**220**
Cover board thickness	**mm**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Veneer thickness	mm	1	1	1	1	1	1	1	1	1	1	1	1
Thermal insulation thickness	mm	86	93	103	113	123	133	143	153	163	173	183	193
Sound insulation thickness	mm	5	5	5	5	5	5	5	5	5	5	5	5
U-value	**W/m²K**	**0.358**	**0.334**	**0.305**	**0.280**	**0.260**	**0.242**	**0.226**	**0.212**	**0.200**	**0.189**	**0.180**	**0.171**
Airborne sound insulation	**46 dB,** element thickness: 165 mm; test surface: 1.9 m² (download test reports)												
Weight	kg/m²	27.4	27.6	27.8	28.0	28.2	28.4	28.6	28.8	29.0	29.2	29.4	29.6

Cover panel and surface	**Biofaser Hydropan BF-STX hardboard, 8 mm, untreated (unsanded), 1,4 mm** (certified FSC, PEFC, CE) All types of real wood veneers available: spruce, pine, larch, fir, oak, etc. (FSC- or PEFC-certified) Veneer quality A/B (inside A/outside B) or A/A (inside A/outside A)
Thermal insulation	**Glass wool, 20 kg/m³, 90–197 mm**
Bonding	Water-resistant D3 (EN 204-D3)
Edge band	**Spruce, circumferential or on the longitudinal edges** (PEFC-certified) Other types of wood available; special edge bands can be inset according to your requirements
Edge milling	**All possible CNC edge profile work is performed on all sides according to your profile specifications** Special CNC processing such as cut-outs, round and segment arches, ventilation slots or surface grooves are also possible
Thicknesses	**Thicknesses from 113 mm to 220 mm can be produced** For thicknesses below 113 mm, see frame extension elements for wooden and wood-metal windows
Formats	**All formats from 500 × 95 mm to 3588 × 1294 mm can be produced**

Element thicknesses from 113 mm to 220 mm can be produced. For further U-value calculations, please contact our consultants.

Element thickness	**mm**	**113**	**120**	**130**	**140**	**150**	**160**	**170**	**180**	**190**	**200**	**210**	**220**
Cover panel thickness	**mm**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**	**8**
Veneer thickness	mm	1	1	1	1	1	1	1	1	1	1	1	1
Thermal insulation thickness	mm	90	97	107	117	127	137	147	157	167	177	187	197
Sound insulation thickness	mm	5	5	5	5	5	5	5	5	5	5	5	5
U-value	**W/m²K**	**0.347**	**0.325**	**0.297**	**0.274**	**0.254**	**0.237**	**0.222**	**0.209**	**0.197**	**0.186**	**0.177**	**0.168**
Airborne sound insulation	**46 dB,** element thickness: 165 mm; test surface: 1.9 m² (download test reports)												
Weight	kg/m²	27.1	27.3	27.5	27.7	27.9	28.1	28.3	28.5	28.7	28.9	29.1	29.3

Frinorm AG, Wärmedämmelemente
Föhrenweg 12, FL-9496 Balzers, phone 00423 384 23 66, fax 00423 384 23 35, www.frinorm.com, info@frinorm.com