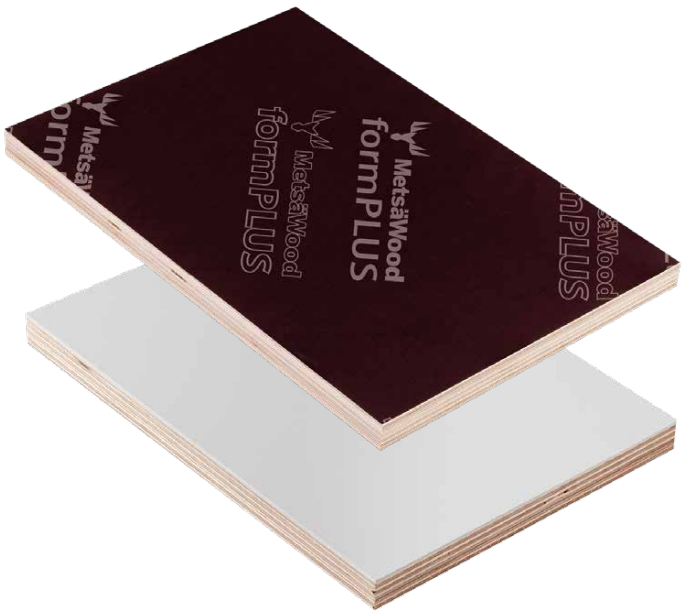
Metsä

Birch Ply

Technical data
and design guidelines
for concrete formwork

Metsä Wood plywood
Premium panels for concrete formwork

Metsä Wood plywood products and solutions are widely recognized for their quality. Metsä Wood has decades of experience in manufacturing plywood, and uses advanced production processes.



Metsä Wood concrete formwork product range includes a wide variety of panels for different concrete casting applications. Formwork panels can be used both in on-site casting and manufacture of prefabricated concrete elements. Metsä Wood formwork panels meet the requirements of different types of concrete casting with high quality finish. In addition to the plywood standard sizes, Metsä Wood offers L and XL panels that enable large concrete surfaces with fewer joints.

Metsä Wood plywood products for concrete formwork

- Form and Form L
- FormPLUS®
- Metsä Wood DURAForm®
- Form XL
- Spruce

Technical data and design

This brochure provides technical information and design guidelines for all Metsä Wood plywood panels for concrete formwork.

This document includes

- Strength and elasticity properties
- Permissible concrete pressure tables
- Design nomograms

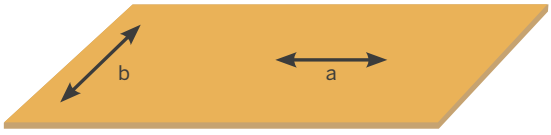
Content

1. Metsä Wood DURAForm, Form and FormPLUS

Strength and elasticity properties of Metsä Wood DURAForm, Form and FormPLUS

	NOMINAL THICK-NESS	THICKNESS TOLERANCE		MODULUS OF ELASTICITY BENDING		CHARACTERISTIC STRENGTH BENDING		MODULUS OF RIGIDITY PLANAR SHEAR		CHARACTERISTIC STRENGTH PLANAR SHEAR		APPROX. WEIGHT	FACE VENEER DIRECTION
PRODUCT	[mm]	min. [mm]	max. [mm]	E_{m} a [N/mm²]	E_{m} b [N/mm²]	f_{m} a [N/mm²]	f_{m} b [N/mm²]	g_{r} a [N/mm²]	g_{r} b [N/mm²]	f_{r} a [N/mm²]	f_{r} b [N/mm²]	[kg/m²]	
Metsä Wood Form, FormPLUS, DURAForm* Standard lay-up	9	8.8	9.5	6 105	11 395	32.1	45.6	155	206	2.35	2.68	6.1	b
	12	11.5	12.5	6 781	10 719	33.2	42.9	170	207	2.22	2.78	8.2	b
	15	14.3	15.3	7 184	10 316	33.8	41.3	178	207	2.39	2.62	10.2	b
	18	17.1	18.1	7 452	10 048	34.1	40.2	183	206	2.34	2.67	12.2	b
	21	20.0	20.9	7 642	9 858	34.3	39.4	186	206	2.41	2.59	14.3	b
	24	22.9	23.7	7 783	9 717	34.4	38.9	189	206	2.39	2.62	16.3	b
	27	25.2	26.8	7 893	9 607	34.5	38.4	190	205	2.43	2.57	18.4	b
	30	28.1	29.9	7 981	9 519	34.6	38.1	192	205	2.41	2.59	20.4	b
Metsä Wood DURAForm, Form and FormPLUS S2 lay-up	15	14.3	15.3	10 413	7 087	48.9	28.3	240	161	2.31	2.92	10.2	b
	18	17.1	18.1	10 852	6 648	49.6	26.6	220	174	2.36	2.83	12.2	b
	21	20.0	20.9	11 047	6 453	49.5	25.8	212	183	2.46	2.60	14.3	b

EN 789 values, moisture content 12%.
*DURAForm is available in thicknesses of 15, 18 and 21 mm



a = Panel lenghtwise direction
b = Panel crosswise direction

Design data for Metsä Wood DURAForm, Form and FormPLUS

Permissible concrete pressures

STANDARD LAY-UP, DIRECTION a

Table 1.2 Permissible concrete pressure q [kN/m²] for Metsä Wood DURAForm, Form and FormPLUS.
Triple-span plate strip. Panel lengthwise direction (a) parallel to the span. Uniform load.
Deflection d [mm] with max. span/300 deflection limitation. Moisture content 27%.

	9 mm / 7 ply		12 mm / 9 ply		15 mm / 11 ply		18 mm / 13 ply		21 mm / 15 ply		24 mm / 17 ply		27 mm / 19 ply		30 mm / 21 ply	
SPAN	q	d	q	d	q	d	q	d	q	d	q	d	q	d	q	d
[mm]	[kN/m²]	[mm]	[kN/m²]	[mm]	[kN/m²]	[mm]	[kN/m²]	[mm]	[kN/m²]	[mm]	[kN/m²]	[mm]	[kN/m²]	[mm]	[kN/m²]	[mm]
200	17.2 d	0.7	36.0 d	0.7	61.3 d	0.7	74.3 t	0.6	85.9 t	0.5	98.0 t	0.4	109.7 t	0.4	121.3 t	0.4
250	9.6 d	0.8	21.0 d	0.8	37.3 d	0.8	56.6 d	0.8	68.8 t	0.7	78.4 t	0.6	87.7 t	0.6	97.1 t	0.5
300	5.9 d	1.0	13.2 d	1.0	24.1 d	1.0	37.6 d	1.0	53.4 d	1.0	65.3 t	0.9	73.1 t	0.8	80.9 t	0.7
350	3.8 d	1.2	8.7 d	1.2	16.3 d	1.2	26.0 d	1.2	37.7 d	1.2	51.6 d	1.2	62.7 t	1.1	69.3 t	1.0
400	2.6 d	1.3	6.1 d	1.3	11.5 d	1.3	18.6 d	1.3	27.4 d	1.3	38.1 d	1.3	49.9 d	1.3	60.7 t	1.3
450	1.9 d	1.5	4.4 d	1.5	8.4 d	1.5	13.7 d	1.5	20.4 d	1.5	28.8 d	1.5	38.2 d	1.5	48.4 d	1.5
500	1.4 d	1.7	3.2 d	1.7	6.3 d	1.7	10.3 d	1.7	15.6 d	1.7	22.2 d	1.7	29.7 d	1.7	38.1 d	1.7
600	0.8 d	2.0	1.9 d	2.0	3.8 d	2.0	6.3 d	2.0	9.6 d	2.0	13.9 d	2.0	18.8 d	2.0	24.5 d	2.0

d = Deflection limitation, t = Shear strength limitation

STANDARD LAY-UP, DIRECTION b

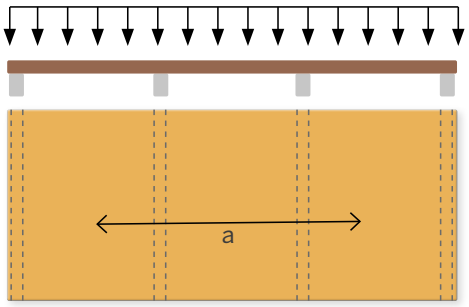
Table 1.3 Permissible concrete pressure q [kN/m²] for Metsä Wood DURAForm, Form and FormPLUS.
Triple-span plate strip. Panel crosswise direction (b) parallel to the span. Uniform load.
Deflection d [mm] with max. span/300 deflection limitation. Moisture content 27%.

	9 mm / 7 ply		12 mm / 9 ply		15 mm / 11 ply		18 mm / 13 ply		21 mm / 15 ply		24 mm / 17 ply		27 mm / 19 ply		30 mm / 21 ply	
SPAN	q	d	q	d	q	d	q	d	q	d	q	d	q	d	q	d
[mm]	[kN/m²]	[mm]	[kN/m²]	[mm]	[kN/m²]	[mm]	[kN/m²]	[mm]	[kN/m²]	[mm]	[kN/m²]	[mm]	[kN/m²]	[mm]	[kN/m²]	[mm]
200	29.5 d	0.7	50.6 t	0.6	62.6 t	0.5	74.3 t	0.5	85.9 t	0.4	98.0 t	0.4	109.7 t	0.4	121.3 t	0.3
250	16.9 d	0.8	31.1 d	0.8	49.8 d	0.8	59.4 t	0.7	68.8 t	0.6	78.4 t	0.6	87.7 t	0.5	97.1 t	0.5
300	10.5 d	1.0	19.8 d	1.0	32.7 d	1.0	47.7 d	1.0	57.3 t	0.9	65.3 t	0.8	73.1 t	0.7	80.9 t	0.7
350	6.9 d	1.2	13.3 d	1.2	22.4 d	1.2	33.4 d	1.2	46.1 d	1.2	56.0 t	1.1	62.7 t	1.0	69.3 t	0.9
400	4.8 d	1.3	9.3 d	1.3	15.9 d	1.3	24.1 d	1.3	33.8 d	1.3	45.4 d	1.3	54.8 t	1.3	60.7 t	1.1
450	3.4 d	1.5	6.7 d	1.5	11.7 d	1.5	17.9 d	1.5	25.4 d	1.5	34.6 d	1.5	44.6 d	1.5	53.9 t	1.5
500	2.5 d	1.7	5.0 d	1.7	8.8 d	1.7	13.6 d	1.7	19.5 d	1.7	26.8 d	1.7	34.9 d	1.7	43.9 d	1.7
600	1.5 d	2.0	3.0 d	2.0	5.3 d	2.0	8.3 d	2.0	12.1 d	2.0	16.9 d	2.0	22.3 d	2.0	28.5 d	2.0

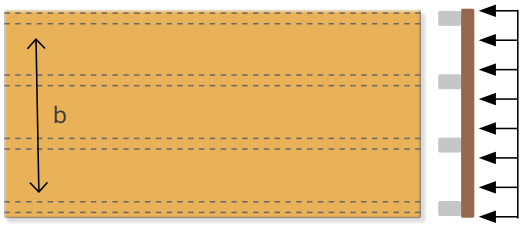
d = Deflection limitation, t = Shear strength limitation

Design nomograms

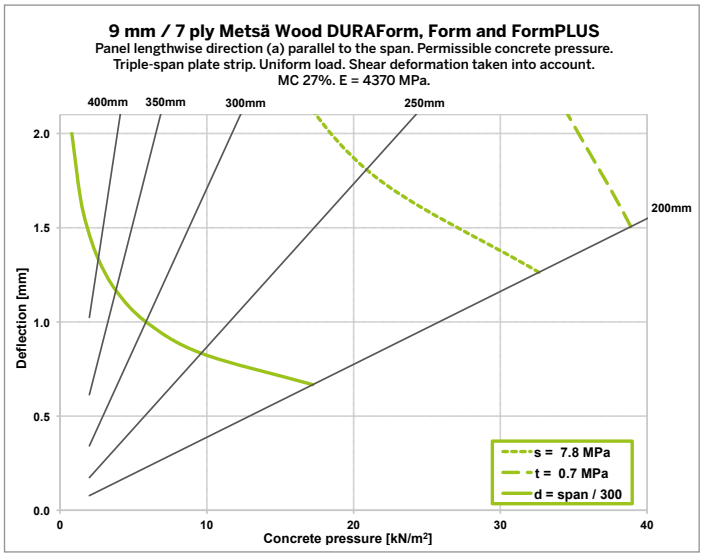
STANDARD LAY-UP, DIRECTION a



STANDARD LAY-UP, DIRECTION b

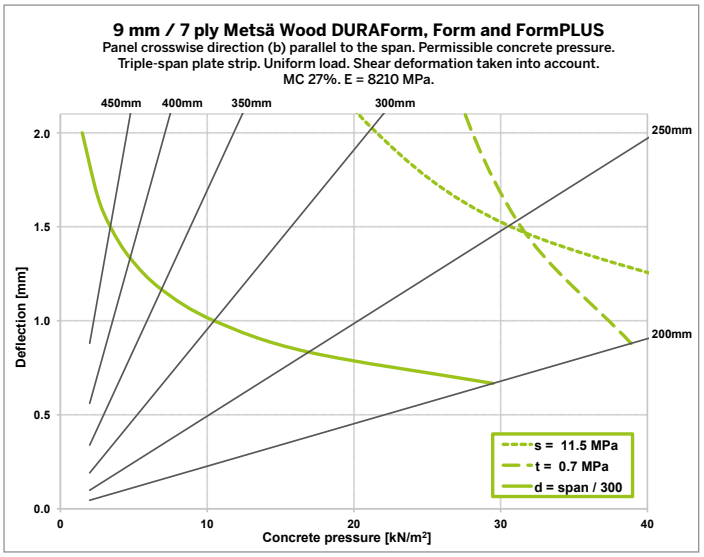


GRAPH 1.1



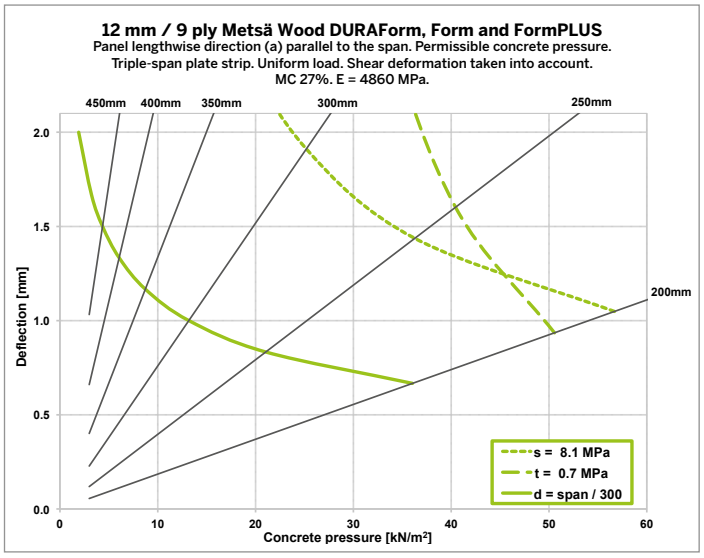
Limit curves: s = Bending strength, t = Shear strength, d = Deflection

GRAPH 1.2



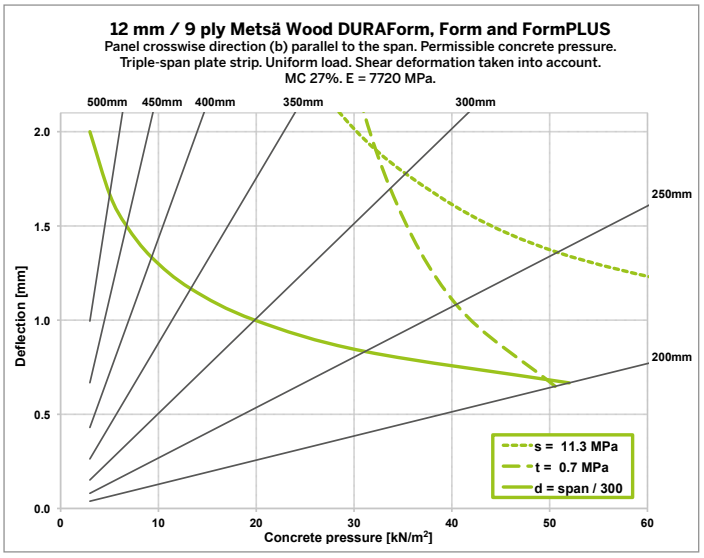
Limit curves: s = Bending strength, t = Shear strength, d = Deflection

GRAPH 1.3



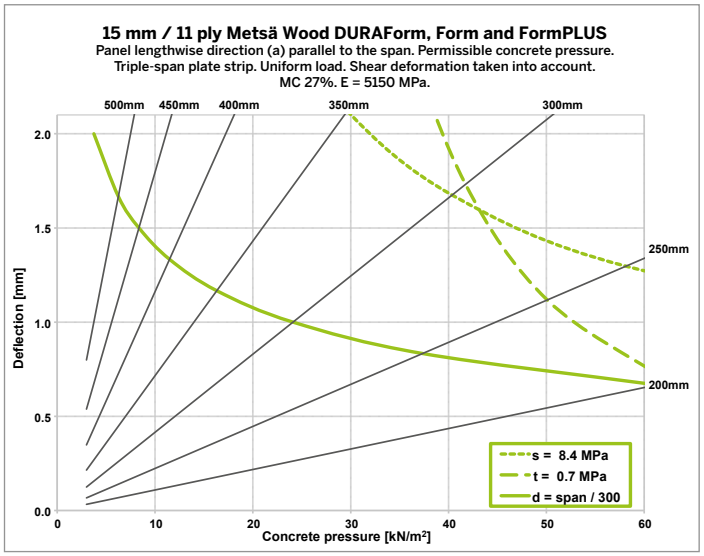
Limit curves: s = Bending strength, t = Shear strength, d = Deflection

GRAPH 1.4



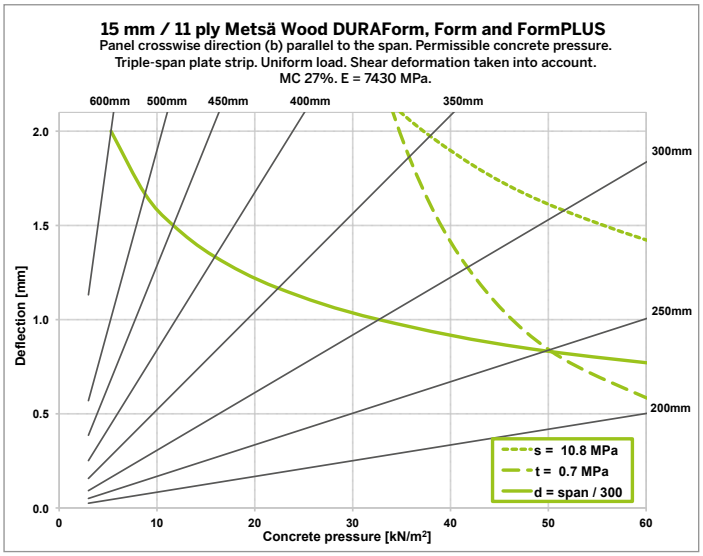
Limit curves: s = Bending strength, t = Shear strength, d = Deflection

GRAPH 1.5



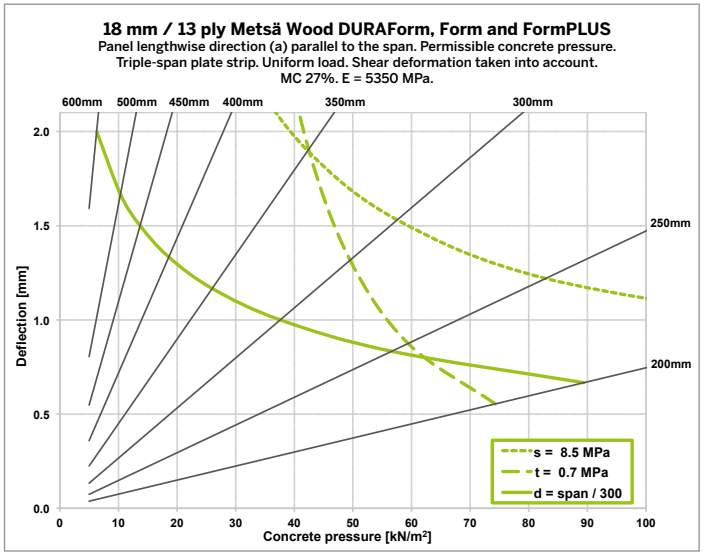
Limit curves: s = Bending strength, t = Shear strength, d = Deflection

GRAPH 1.6



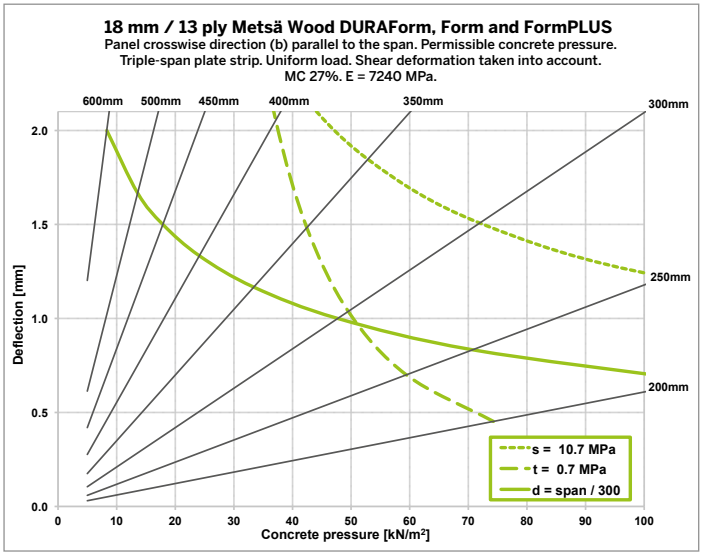
Limit curves: s = Bending strength, t = Shear strength, d = Deflection

GRAPH 1.7



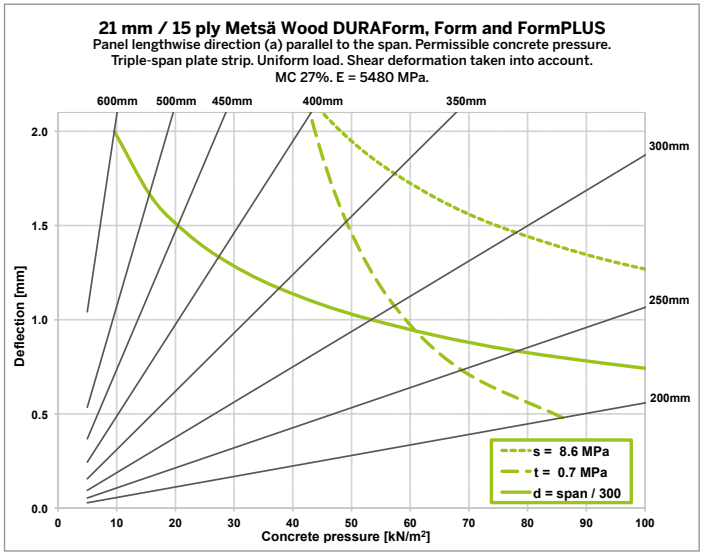
Limit curves: s = Bending strength, t = Shear strength, d = Deflection

GRAPH 1.8



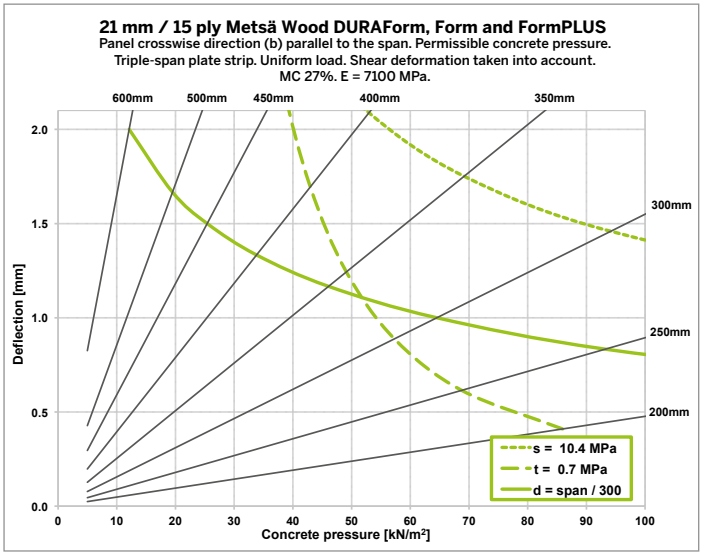
Limit curves: s = Bending strength, t = Shear strength, d = Deflection

GRAPH 1.9



Limit curves: s = Bending strength, t = Shear strength, d = Deflection

GRAPH 1.10



Limit curves: s = Bending strength, t = Shear strength, d = Deflection

Design data for Metsä Wood DURAForm, Form and FormPLUS S2 lay-up

Permissible concrete pressures

S2 LAY-UP, DIRECTION a

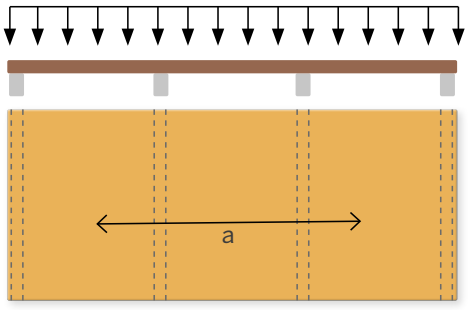
Table 1.4 Permissible concrete pressure q [kN/m²] for Metsä Wood DURAForm, Form and FormPLUS S2 construction.
Triple-span plate strip. Panel lengthwise direction (a) parallel to the span. Uniform load. Deflection d [mm] with max. span/300 deflection limitation. Moisture content 27%.

	15 mm / 11 ply		18 mm / 13 ply		21 mm / 15 ply	
SPAN [mm]	q [kN/m²]	d [mm]	q [kN/m²]	d [mm]	q [kN/m²]	d [mm]
200	62.6 t	0.5	74.3 t	0.4	85.9 t	0.4
250	50.1 t	0.8	59.4 t	0.7	68.8 t	0.6
300	34.3 d	1.0	49.5 t	1.0	57.3 t	0.8
350	23.3 d	1.2	35.7 d	1.2	49.1 t	1.1
400	16.4 d	1.3	25.8 d	1.3	36.9 d	1.3
450	12.0 d	1.5	19.2 d	1.5	27.8 d	1.5
500	9.0 d	1.7	14.6 d	1.7	21.4 d	1.7
600	5.4 d	2.0	8.9 d	2.0	13.4 d	2.0

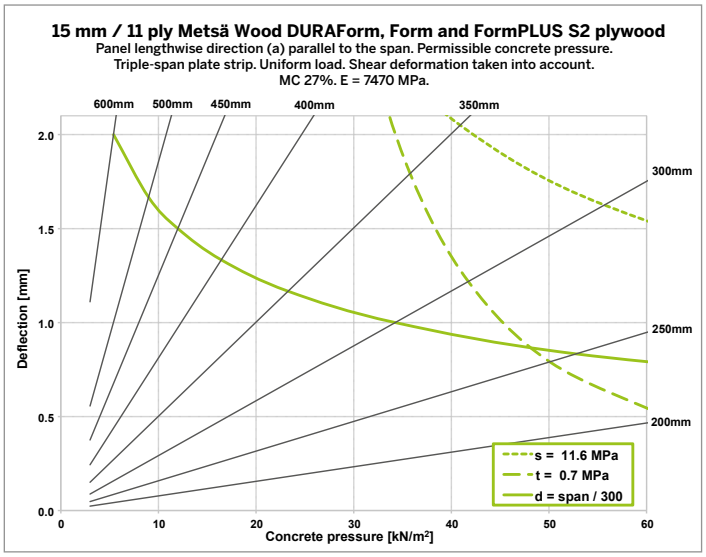
d = Deflection limitation, t = Shear strength limitation

Design nomograms

S2 LAY-UP, DIRECTION a

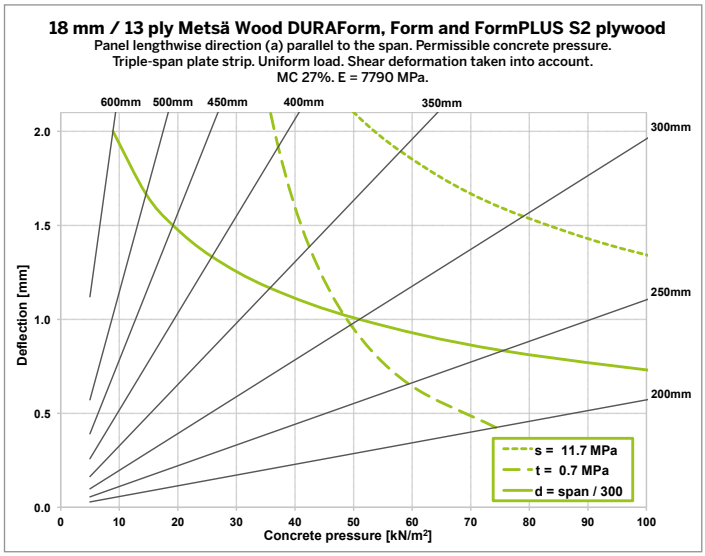


GRAPH 1.11



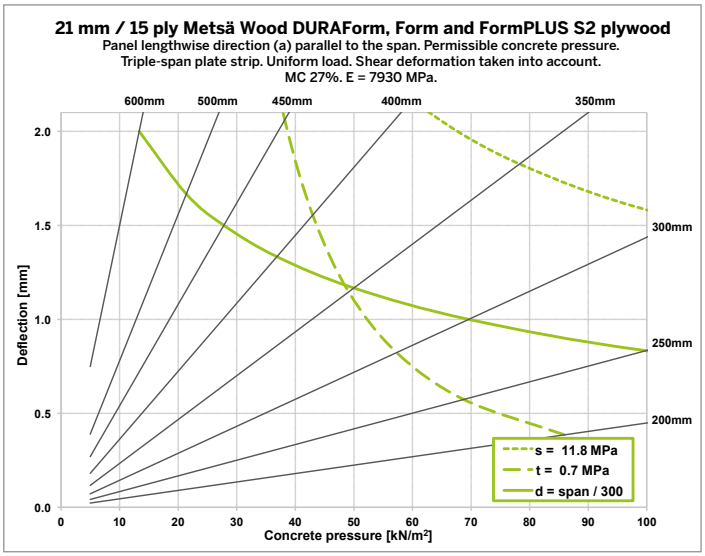
Limit curves: s = Bending strength, t = Shear strength, d = Deflection

GRAPH 1.12



Limit curves: s = Bending strength, t = Shear strength, d = Deflection

GRAPH 1.13



Limit curves: s = Bending strength, t = Shear strength, d = Deflection

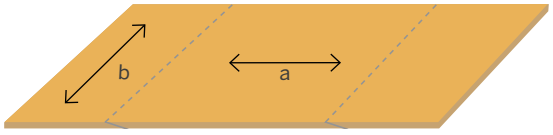
2. Metsä Wood Form XL

Strength and elasticity properties of Metsä Wood Form XL

Table 2.1

	NOMINAL THICK-NESS	THICKNESS TOLERANCE		MODULUS OF ELASTICITY BENDING		CHARACTERISTIC STRENGTH BENDING		MODULUS OF RIGIDITY PLANAR SHEAR		CHARACTERISTIC STRENGTH PLANAR SHEAR		APPROX. WEIGHT	FACE VENEER DIRECTION
PRODUCT	[mm]	MIN. [mm]	MAX. [mm]	E_m a [N/mm²]	E_m b [N/mm²]	f_m a [N/mm²]	f_m b [N/mm²]	G_r a [N/mm²]	G_r b [N/mm²]	f_r a [N/mm²]	f_r b [N/mm²]	[kg/m²]	
METSÄ WOOD FORM XL	18	16.9	18.1	10 048	7 452	28.1	34.1	206	183	2.67	2.34	12.2	a
	21	19.8	20.9	9 858	7 642	27.6	34.3	206	186	2.59	2.41	14.3	a

EN 789 values, moisture content 12%.



a = Panel lenghtwise direction
b = Panel crosswise direction

Design Data for Metsä Wood Form XL

Permissible concrete pressures

DIRECTION a

Table 2.2 Permissible concrete pressure q [kN/m²] for Metsä Wood Form XL. Triple-span plate strip. Panel lengthwise direction (a) parallel to the span. Uniform load. Deflection d [mm] with max. span/300 deflection limitation. Moisture content 27%.

	18 mm / 13 ply		21 mm / 15 ply	
SPAN [mm]	q [kN/m²]	d [mm]	q [kN/m²]	d [mm]
200	74.3 t	0.5	85.9 t	0.4
250	59.4 t	0.7	68.8 t	0.6
300	45.0 d	1.0	57.3 t	0.9
350	31.3 d	1.2	43.4 d	1.2
400	22.5 d	1.3	31.7 d	1.3
450	16.6 d	1.5	23.7 d	1.5
500	12.6 d	1.7	18.1 d	1.7
600	7.7 d	2.0	11.2 d	2.0

d = Deflection limitation, t = Shear strength limitation

DIRECTION b

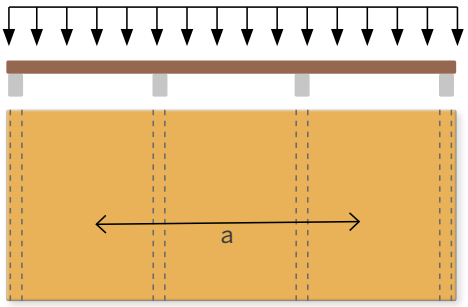
Table 2.3 Permissible concrete pressure q [kN/m²] for Metsä Wood form XL. Triple-span plate strip. Panel crosswise direction (b) parallel to the span. Uniform load. Deflection d [mm] with max. span/300 deflection limitation. Moisture content 27%.

	18 mm / 13 ply		21 mm / 15 ply	
SPAN [mm]	q [kN/m²]	d [mm]	q [kN/m²]	d [mm]
200	74.3 t	0.6	85.9 t	0.5
250	56.6 d	0.8	68.8 t	0.7
300	37.6 d	1.0	53.4 d	1.0
350	26.0 d	1.2	37.7 d	1.2
400	18.6 d	1.3	27.4 d	1.3
450	13.7 d	1.5	20.4 d	1.5
500	10.3 d	1.7	15.6 d	1.7
600	6.3 d	2.0	9.6 d	2.0

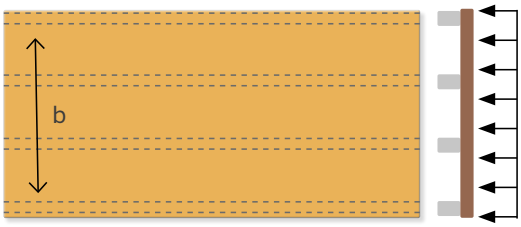
d = Deflection limitation, t = Shear strength limitation

Design nomograms

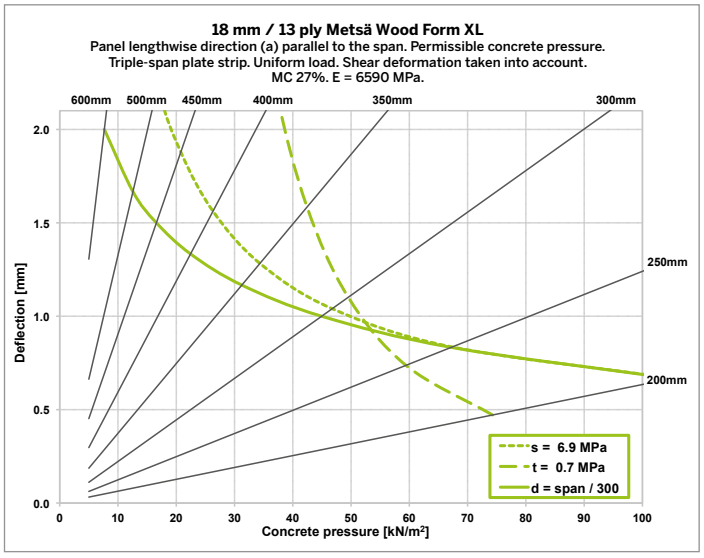
DIRECTION a



DIRECTION b

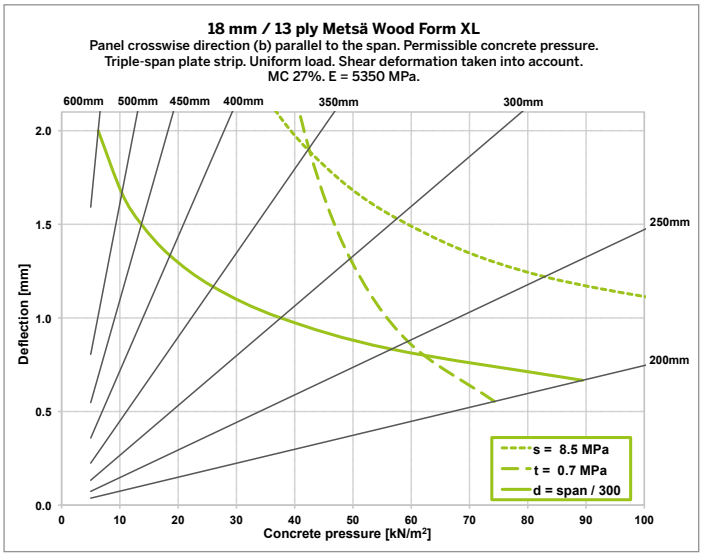


Graph 2.1



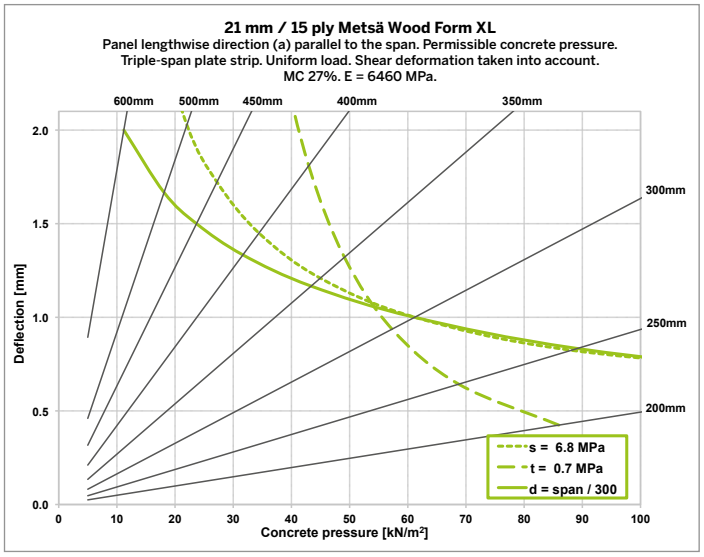
Limit curves: s = Bending strength, t = Shear strength, d = Deflection

Graph 2.2



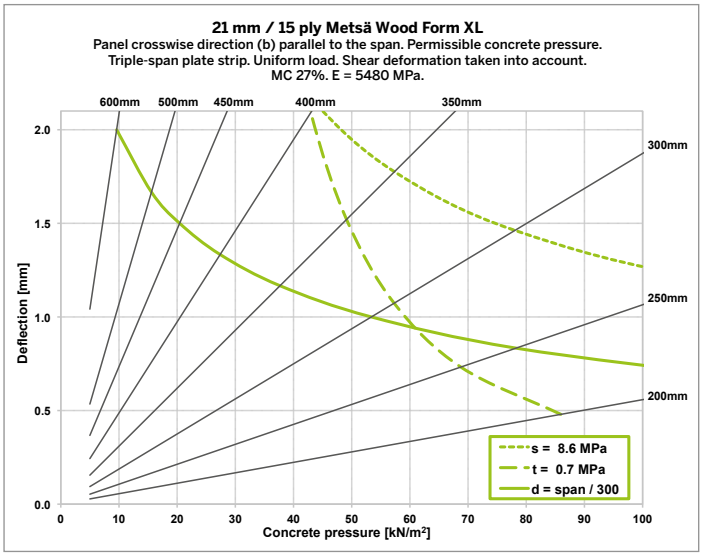
Limit curves: s = Bending strength, t = Shear strength, d = Deflection

Graph 2.3



Limit curves: s = Bending strength, t = Shear strength, d = Deflection

Graph 2.4



Limit curves: s = Bending strength, t = Shear strength, d = Deflection

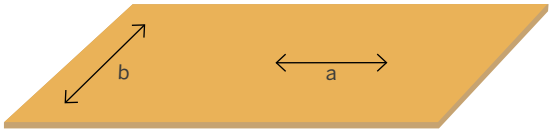
3. Metsä Wood Spruce III+/III

Strength and elasticity properties of Spruce III+/III plywood

Table 3.1

PRODUCT	NOMINAL THICK-NESS [mm]	THICKNESS TOLERANCE MIN. [mm]	THICKNESS TOLERANCE MAX. [mm]	MODULUS OF ELASTICITY BENDING E_m a [N/mm²]	MODULUS OF ELASTICITY BENDING E_m b [N/mm²]	CHARACTERISTIC STRENGTH BENDING f_m a [N/mm²]	CHARACTERISTIC STRENGTH BENDING f_m b [N/mm²]	MODULUS OF RIGIDITY PLANAR SHEAR G_r a [N/mm²]	MODULUS OF RIGIDITY PLANAR SHEAR G_r b [N/mm²]	CHARACTERISTIC STRENGTH PLANAR SHEAR f_r a [N/mm²]	CHARACTERISTIC STRENGTH PLANAR SHEAR f_r b [N/mm²]	APPROX. WEIGHT [kg/m²]	FACE VENEER DIRECTION
METSÄ WOOD SPRUCE III+/III	12	11.5	12.5	8 237	1 363	20.6	6.5	35.5	-	0.94	-	5.5	a
	15	14.3	15.3	9 237	2 763	23.1	11.1	50.5	29.1	1.63	0.87	6.9	a
	18	17.1	18.1	8 615	3 385	21.5	12.3	71.4	24.9	1.76	0.64	8.3	a
	21	20.0	20.9	8 277	3 723	20.7	12.7	51.8	37.4	1.41	1.18	9.7	a

EN 789 values, moisture content 10%.



a = Panel lenghtwise direction
b = Panel crosswise direction

Design Data for Metsä Wood Spruce III+/III plywood

Permissible concrete pressures

DIRECTION a

Table 3.2 Permissible concrete pressure q [kN/m²] for Metsä Wood Spruce III+/III.
Triple-span plate strip. Panel lengthwise direction (a) parallel to the span. Uniform load. Deflection d [mm] with max. span/300 deflection limitation. Moisture content 27%.

	12 mm / 4 ply		15 mm / 5 ply		18 mm / 6 ply		21 mm / 7 ply	
SPAN [mm]	q [kN/m²]	d [mm]	q [kN/m²]	d [mm]	q [kN/m²]	d [mm]	q [kN/m²]	d [mm]
200	19.0 d	0.7	31.5 t	0.6	37.9 t	0.4	44.5 t	0.5
250	12.8 d	0.8	25.2 d	0.8	30.3 t	0.6	35.6 t	0.7
300	8.9 d	1.0	17.9 d	1.0	25.3 t	0.8	29.7 t	0.9
350	6.4 d	1.2	13.1 d	1.2	21.6 t	1.2	24.9 d	1.2
400	4.7 d	1.3	9.8 d	1.3	16.2 d	1.3	19.3 d	1.3
450	3.6 d	1.5	7.5 d	1.5	12.3 d	1.5	15.2 d	1.5
500	2.8 d	1.7	5.8 d	1.7	9.6 d	1.7	12.1 d	1.7
600	1.7 d	2.0	3.7 d	2.0	6.0 d	2.0	8.0 d	2.0

d = Deflection limitation, t = Shear strength limitation

DIRECTION b

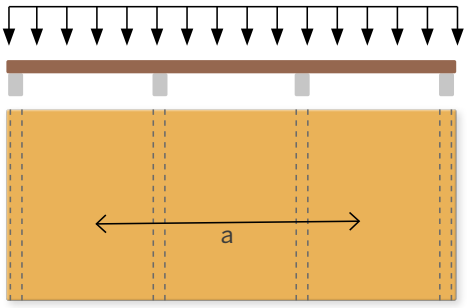
Table 3.3 Permissible concrete pressure q [kN/m²] for Metsä Wood Spruce III+/III.
Triple-span plate strip. Panel crosswise direction (b) parallel to the span. Uniform load. Deflection d [mm] with max. span/300 deflection limitation. Moisture content 27%.

	12 mm / 4 ply		15 mm / 5 ply		18 mm / 6 ply		21 mm / 7 ply	
SPAN [mm]	q [kN/m²]	d [mm]	q [kN/m²]	d [mm]	q [kN/m²]	d [mm]	q [kN/m²]	d [mm]
200	8.6 s	0.6	16.7 d	0.7	22.0 d	0.7	39.4 d	0.7
250	4.8 d	0.8	10.7 d	0.8	15.3 d	0.8	27.3 d	0.8
300	2.8 d	1.0	7.2 d	1.0	11.0 d	1.0	19.6 d	1.0
350	1.8 d	1.2	5.0 d	1.2	8.1 d	1.2	14.4 d	1.2
400	1.2 d	1.3	3.6 d	1.3	6.1 d	1.3	10.8 d	1.3
450	0.8 d	1.5	2.7 d	1.5	4.6 d	1.5	8.3 d	1.5
500	0.6 d	1.7	2.0 d	1.7	3.6 d	1.7	6.5 d	1.7
600	0.3 d	2.0	1.2 d	2.0	2.3 d	2.0	4.1 d	2.0

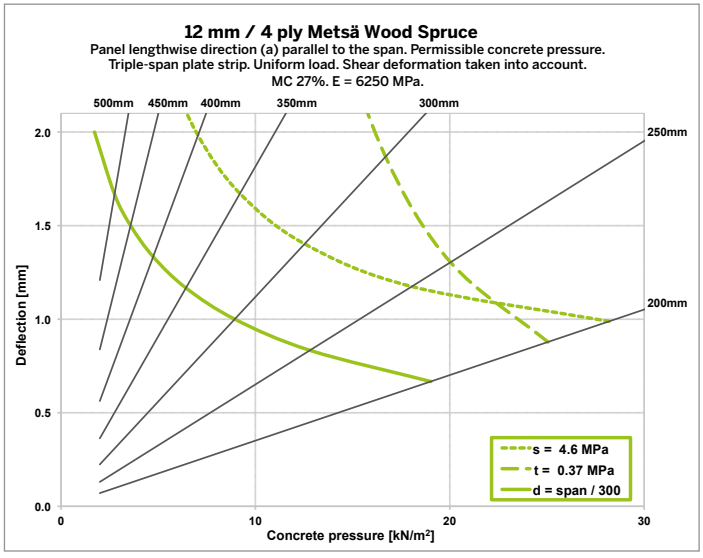
d = Deflection limitation, t = Shear strength limitation, s = Bending strength limitation

Design nomograms

DIRECTION a

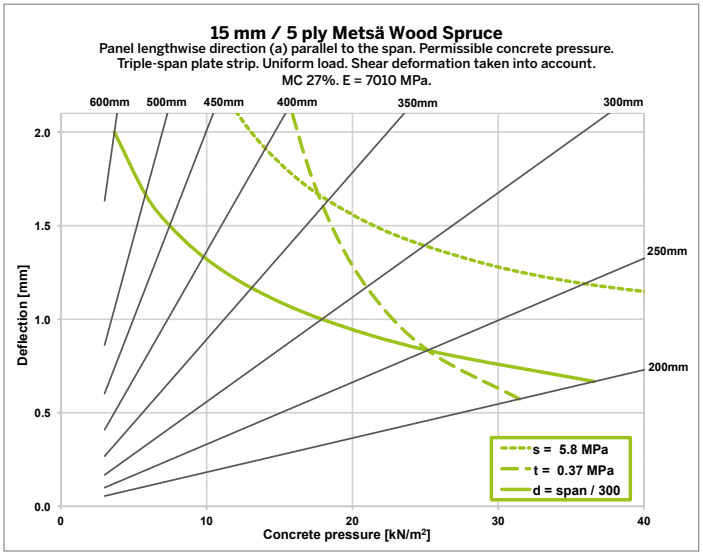


Graph 3.1



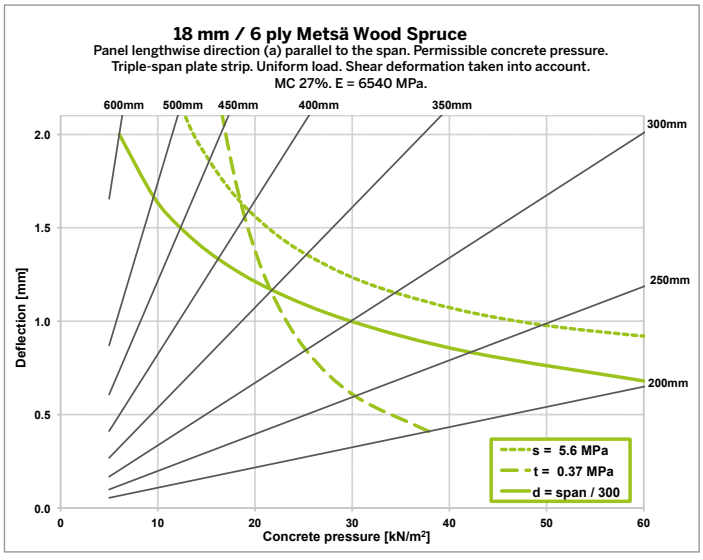
Limit curves: s = Bending strength, t = Shear strength, d = Deflection

Graph 3.2



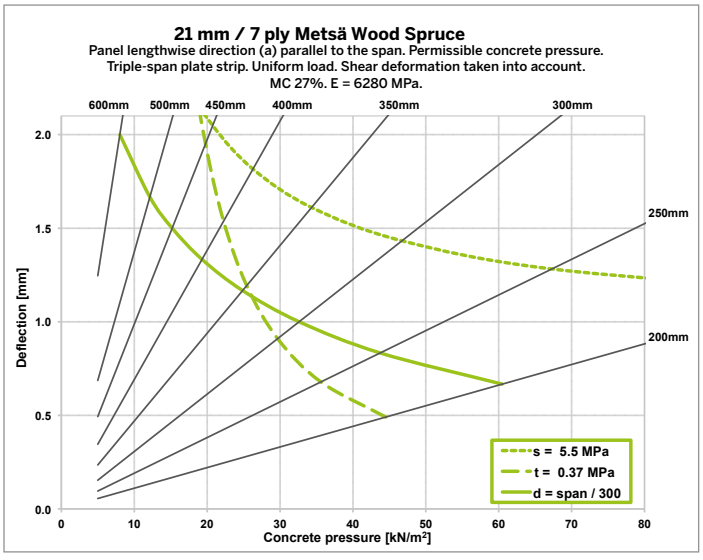
Limit curves: s = Bending strength, t = Shear strength, d = Deflection

Graph 3.3



Limit curves: s = Bending strength, t = Shear strength, d = Deflection

Graph 3.4



Limit curves: s = Bending strength, t = Shear strength, d = Deflection

4. How to read design nomograms

The permissible conrete pressures, corresponding deflections and limiting factors are presented in two different ways: design tables and nomograms. Each design table (figure 1) includes permissible concrete pressure values for different thicknesses of one product type in certain panel orientation (figure 2). Nomograms present the same information visually, including limit curves for different spans. Each nomogram (figure 3) presents one thickness of a product type in certain panel orientation (figure 2).

Example 1

Metsä Wood Form plywood, product thickness 18 mm and panel orientation b are selected. The respective nomogram is presented in figure 3. In the nomogram the acceptable concrete pressures for each span are marked with a blue area. The green limit curves create the boundaries for the blue area.

Maximum concrete pressure 40 kN/m² is selected from the horizontal axis of the nomogram (figure 3). From the nomogram it can be read that the possible spans are 200 mm, 250 mm and 300 mm as marked with blue ticks. The corresponding deflections can be read from the vertical axis. The span of 350 mm does not fulfill the deflection limitation of span/300, marked with red x.

Example 2

Metsä Wood Form plywood, product thickness 18 mm and panel orientation b are selected. The respective nomogram is presented in figure 3.

Maximum concrete pressure 60 kN/m² is selected from the horizontal axis of the nomogram (figure 3). From the nomogram it can be read that the possible span is 200 mm as marked with a blue tick. The corresponding deflection can be read from the vertical axis. The span of 250 mm does not fulfill the shear strength limitation of 0.7 MPa, marked with red x.

STANDARD LAY-UP, DIRECTION b

Table 1.3 Permissible concrete pressure q [kN/m²] for Metsä Wood DURAForm, Form and FormPLUS.
Triple-span plate strip. Panel crosswise direction (b) parallel to the span. Uniform load.
Deflection d [mm] with max. span/300 deflection limitation. Moisture content 27%.

	9 mm / 7 ply		12 mm / 9 ply		15 mm / 11 ply		18 mm / 13 ply		21 mm / 15 ply		24 mm / 17 ply		27 mm / 19 ply		30 mm / 21 ply	
SPAN	q	d	q	d	q	d	q	d	q	d	q	d	q	d	q	d
[mm]	[kN/m²]	[mm]	[kN/m²]	[mm]	[kN/m²]	[mm]	[kN/m²]	[mm]	[kN/m²]	[mm]	[kN/m²]	[mm]	[kN/m²]	[mm]	[kN/m²]	[mm]
200	29.5 d	0.7	50.6 t	0.6	62.6 t	0.5	74.3 t	0.5	85.9 t	0.4	98.0 t	0.4	109.7 t	0.4	121.3 t	0.3
250	16.9 d	0.8	31.1 d	0.8	49.8 d	0.8	59.4 t	0.7	68.8 t	0.6	78.4 t	0.6	87.7 t	0.5	97.1 t	0.5
300	10.5 d	1.0	19.8 d	1.0	32.7 d	1.0	47.7 d	1.0	57.3 t	0.9	65.3 t	0.8	73.1 t	0.7	80.9 t	0.7
350	6.9 d	1.2	13.3 d	1.2	22.4 d	1.2	33.4 d	1.2	46.1 d	1.2	56.0 t	1.1	62.7 t	1.0	69.3 t	0.9
400	4.8 d	1.3	9.3 d	1.3	15.9 d	1.3	24.1 d	1.3	33.8 d	1.3	45.4 d	1.3	54.8 t	1.3	60.7 t	1.1
450	3.4 d	1.5	6.7 d	1.5	11.7 d	1.5	17.9 d	1.5	25.4 d	1.5	34.6 d	1.5	44.6 d	1.5	53.9 t	1.5
500	2.5 d	1.7	5.0 d	1.7	8.8 d	1.7	13.6 d	1.7	19.5 d	1.7	26.8 d	1.7	34.9 d	1.7	43.9 d	1.7
600	1.5 d	2.0	3.0 d	2.0	5.3 d	2.0	8.3 d	2.0	12.1 d	2.0	16.9 d	2.0	22.3 d	2.0	28.5 d	2.0

d = Deflection limitation, t = Shear strength limitation

Figure 1. Design table

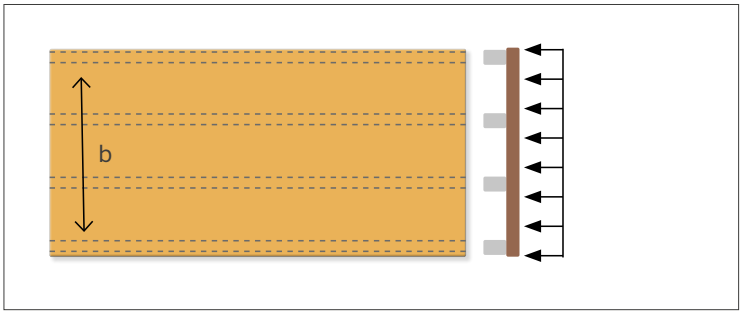


Figure 2. Panel orientation, standard lay-up, direction b

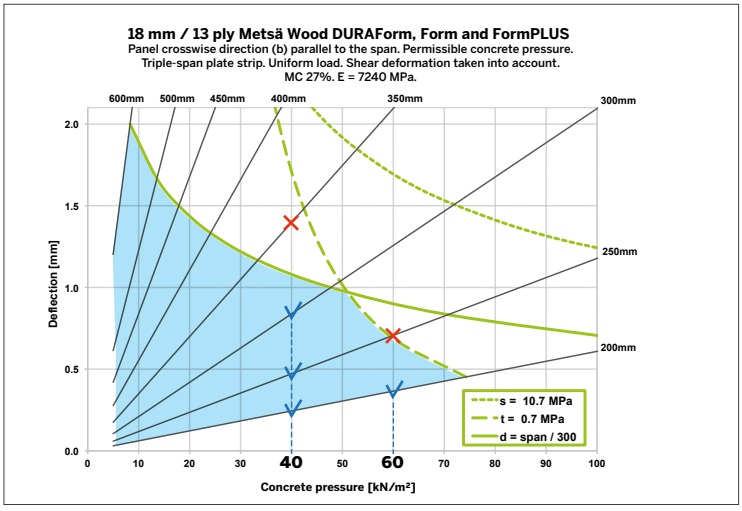


Figure 3. Design nomogram

Metsä

Metsä Wood provides competitive and environmentally friendly wood products for construction, industry and distributor partners. The products are manufactured from northern wood, a sustainable raw material of premium quality. Metsä Wood is part of Metsä Group.

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