

CLT - BASE DE DIMENSIONNEMENT

Fiche technique

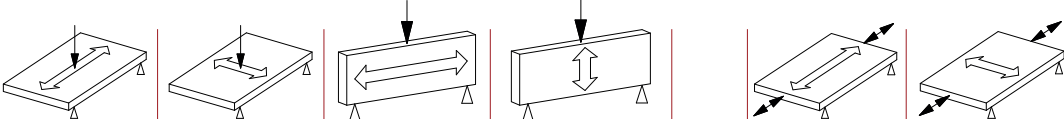
Valeurs de base, contraintes et valeurs de calcul pour $f_{m,d}$, $f_{v,d}$, $E_{m,mean}$, et G_{mean} en N/mm²
SIA 265, $\eta_w = 1.0$, $\eta_t = 1.0$, humidité du bois 12%, poids propre selon SIA 261

CLT-3L

Epaisseur									
		$f_{m,d}$	$f_{v,d}$	$E_{m,mean}$	G_{mean}	$f_{c0,d}$	$f_{t0,d}$	$E_{c,0,d}$	$E_{t,0,d}$
27 mm	$f_{m,d}$	14.9	1.7	9.4	4.7	$f_{c0,d}$	8.3	4.1	
	3L $f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	5.7	2.8	
	9/9/9 $E_{m,mean}$	11550	450	8000	4000	$E_{c,0,d}$	8000	4000	
	G_{mean}	50	50	500	500	$E_{t,0,d}$	8000	4000	
30 mm	$f_{m,d}$	14.9	1.7	9.4	4.7	$f_{c0,d}$	8.3	4.1	
	3L $f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	5.7	2.8	
	10/10/10 $E_{m,mean}$	11550	450	8000	4000	$E_{c,0,d}$	8000	4000	
	G_{mean}	50	50	500	500	$E_{t,0,d}$	8000	4000	
35 mm	$f_{m,d}$	14.3	2.8	8.1	6.0	$f_{c0,d}$	7.1	5.3	
	3L $f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	4.9	3.6	
	10/15/10 $E_{m,mean}$	11050	950	6860	5140	$E_{c,0,d}$	6860	5140	
	G_{mean}	50	50	500	500	$E_{t,0,d}$	6860	5140	
40 mm	$f_{m,d}$	13.6	3.9	7.1	7.1	$f_{c0,d}$	6.2	6.2	
	3L $f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	4.3	4.3	
	10/20/10 $E_{m,mean}$	10500	1500	6000	6000	$E_{c,0,d}$	6000	6000	
	G_{mean}	50	50	500	500	$E_{t,0,d}$	6000	6000	
45 mm	$f_{m,d}$	14.9	1.7	9.4	4.7	$f_{c0,d}$	8.3	4.1	
	3L $f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	5.7	2.8	
	15/15/15 $E_{m,mean}$	11550	450	8000	4000	$E_{c,0,d}$	8000	4000	
	G_{mean}	50	50	500	500	$E_{t,0,d}$	8000	4000	
50 mm	$f_{m,d}$	14.5	2.5	8.5	5.6	$f_{c0,d}$	7.4	5.0	
	3L $f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	5.1	3.4	
	15/20/15 $E_{m,mean}$	11230	770	7200	4800	$E_{c,0,d}$	7200	4800	
	G_{mean}	50	50	500	500	$E_{t,0,d}$	7200	4800	
60 mm	$f_{m,d}$	14.9	1.7	9.4	4.7	$f_{c0,d}$	8.3	4.1	
	3L $f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	5.7	2.8	
	20/20/20 $E_{m,mean}$	11550	450	8000	4000	$E_{c,0,d}$	8000	4000	
	G_{mean}	50	50	500	500	$E_{t,0,d}$	8000	4000	
70 mm	$f_{m,d}$	14.3	2.8	8.1	6.0	$f_{c0,d}$	7.1	5.3	
	3L $f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	4.9	3.6	
	20/30/20 $E_{m,mean}$	11050	950	6860	5140	$E_{c,0,d}$	6860	5140	
	G_{mean}	50	50	500	500	$E_{t,0,d}$	6860	5140	
80 mm	$f_{m,d}$	15.3	1.0	10.6	3.5	$f_{c0,d}$	9.3	3.1	
	3L $f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	6.4	2.1	
	30/20/30 $E_{m,mean}$	11810	190	9000	3000	$E_{c,0,d}$	9000	3000	
	G_{mean}	50	50	500	500	$E_{t,0,d}$	9000	3000	
90 mm	$f_{m,d}$	14.9	1.7	9.4	4.7	$f_{c0,d}$	8.3	4.1	
	3L $f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	5.7	2.8	
	30/30/30 $E_{m,mean}$	11550	450	8000	4000	$E_{c,0,d}$	8000	4000	
	G_{mean}	50	50	500	500	$E_{t,0,d}$	8000	4000	
100 mm	$f_{m,d}$	14.5	2.5	8.5	5.6	$f_{c0,d}$	7.4	5.0	
	3L $f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	5.1	3.4	
	30/40/30 $E_{m,mean}$	11230	770	7200	4800	$E_{c,0,d}$	7200	4800	
	G_{mean}	50	50	500	500	$E_{t,0,d}$	7200	4800	
110 mm	$f_{m,d}$	15.2	1.2	10.3	3.8	$f_{c0,d}$	9.0	3.4	
	3L $f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	6.2	2.3	
	40/30/40 $E_{m,mean}$	11760	240	8730	3270	$E_{c,0,d}$	8730	3270	
	G_{mean}	50	50	500	500	$E_{t,0,d}$	8730	3270	
120 mm	$f_{m,d}$	14.9	1.7	9.4	4.7	$f_{c0,d}$	8.3	4.1	
	3L $f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	5.7	2.8	
	40/40/40 $E_{m,mean}$	11550	450	8000	4000	$E_{c,0,d}$	8000	4000	
	G_{mean}	50	50	500	500	$E_{t,0,d}$	8000	4000	

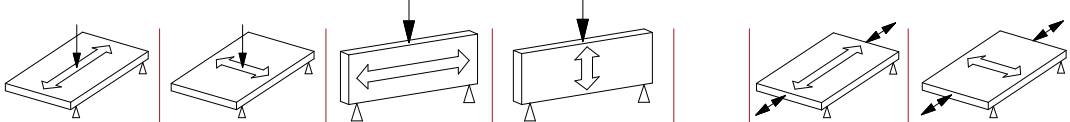
CLT - BASE DE DIMENSIONNEMENT

CLT-5L

Epaisseur									
		$f_{m,d}$	$f_{v,d}$	$E_{m,mean}$	G_{mean}	$f_{c0,d}$	$f_{t0,d}$	$E_{c0,d}$	$E_{t0,d}$
100 mm	$f_{m,d}$	12.3	5.4	8.5	5.6	$f_{c0,d}$	7.4	5.0	
5L	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	5.1	3.4	
20/20/20/	$E_{m,mean}$	9500	2500	7200	4800	$E_{c0,d}$	7200	4800	
20/20	G_{mean}	50	50	500	500	$E_{t0,d}$	7200	4800	
110 mm	$f_{m,d}$	11.8	5.8	9.0	5.1	$f_{c0,d}$	7.9	4.5	
5L	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	5.4	3.1	
20/20/30/	$E_{m,mean}$	9150	2850	7640	4360	$E_{c0,d}$	7640	4360	
20/20	G_{mean}	50	50	500	500	$E_{t0,d}$	7640	4360	
120 mm	$f_{m,d}$	11.0	6.8	7.1	7.1	$f_{c0,d}$	6.2	6.2	
5L	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	4.3	4.3	
20/30/20/	$E_{m,mean}$	8500	3500	6000	6000	$E_{c0,d}$	6000	6000	
30/20	G_{mean}	50	50	500	500	$E_{t0,d}$	6000	6000	
130 mm	$f_{m,d}$	13.3	4.1	9.8	4.3	$f_{c0,d}$	8.6	3.8	
5L	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	5.9	2.6	
30/20/30/	$E_{m,mean}$	10270	1730	8310	3690	$E_{c0,d}$	8310	3690	
20/30	G_{mean}	50	50	500	500	$E_{t0,d}$	8310	3690	
140 mm	$f_{m,d}$	14.3	2.7	10.1	4.0	$f_{c0,d}$	8.9	3.5	
5L	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	6.1	2.4	
20/40/20/	$E_{m,mean}$	11090	910	8570	3430	$E_{c0,d}$	8570	3430	
40/20	G_{mean}	50	50	500	500	$E_{t0,d}$	8570	3430	
150 mm	$f_{m,d}$	12.3	5.4	8.5	5.6	$f_{c0,d}$	7.4	5.0	
5L	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	5.1	3.4	
30/30/30/	$E_{m,mean}$	9500	2500	7200	4800	$E_{c0,d}$	7200	4800	
30/30	G_{mean}	50	50	500	500	$E_{t0,d}$	7200	4800	
160 mm	$f_{m,d}$	13.8	3.4	10.6	3.5	$f_{c0,d}$	9.3	3.1	
5L	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	6.4	2.1	
40/20/40/	$E_{m,mean}$	10690	1310	9000	3000	$E_{c0,d}$	9000	3000	
20/40	G_{mean}	50	50	500	500	$E_{t0,d}$	9000	3000	
170 mm	$f_{m,d}$	11.4	6.4	7.5	6.6	$f_{c0,d}$	6.6	5.8	
5L	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	4.5	4.0	
30/40/30/	$E_{m,mean}$	8820	3190	6350	5650	$E_{c0,d}$	6350	5650	
40/30	G_{mean}	50	50	500	500	$E_{t0,d}$	6350	5650	
180 mm	$f_{m,d}$	13.0	4.5	9.4	4.7	$f_{c0,d}$	8.3	4.1	
5L	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	5.7	2.8	
40/30/40/	$E_{m,mean}$	10070	1930	8000	4000	$E_{c0,d}$	8000	4000	
30/40	G_{mean}	50	50	500	500	$E_{t0,d}$	8000	4000	
200 mm	$f_{m,d}$	12.3	5.4	8.5	5.6	$f_{c0,d}$	7.4	5.0	
5L	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	5.1	3.4	
40/40/40/	$E_{m,mean}$	9500	2500	7200	4800	$E_{c0,d}$	7200	4800	
40/40	G_{mean}	50	50	500	500	$E_{t0,d}$	7200	4800	

CLT - BASE DE DIMENSIONNEMENT

CLT-5DL

Epaisseur								
	$f_{m,d}$	$f_{v,d}$	$E_{m,mean}$	G_{mean}	$f_{c0,d}$	$f_{t0,d}$	$E_{c0,d}$	$E_{t0,d}$
160 mm	$f_{m,d}$	15.3	1.0	10.6	3.5	$f_{c0,d}$	9.3	3.1
5DL	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	6.4	2.1
30+30/40/	$E_{m,mean}$	11810	190	9000	3000	$E_{c0,d}$	9000	3000
30+30	G_{mean}	50	50	500	500	$E_{t0,d}$	9000	3000
170 mm	$f_{m,d}$	15.4	0.5	11.6	2.5	$f_{c0,d}$	10.2	2.2
5DL	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	7.0	1.5
40+30/40/	$E_{m,mean}$	11930	70	9880	2120	$E_{c0,d}$	9880	2120
30+40	G_{mean}	50	50	500	500	$E_{t0,d}$	9880	2120
180 mm	$f_{m,d}$	15.5	0.2	12.5	1.6	$f_{c0,d}$	11.0	1.4
5DL	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	7.6	0.9
40+40/20/	$E_{m,mean}$	11980	20	10670	1330	$E_{c0,d}$	10670	1330
40+40	G_{mean}	50	50	500	500	$E_{t0,d}$	10670	1330
200 mm	$f_{m,d}$	15.4	0.6	11.3	2.8	$f_{c0,d}$	9.9	2.5
5DL	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	6.8	1.7
40+40/40/	$E_{m,mean}$	11900	100	9600	2400	$E_{c0,d}$	7200	4800
40+40	G_{mean}	50	50	500	500	$E_{t0,d}$	7200	4800

CLT-7L

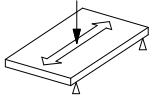
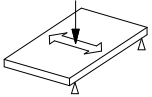
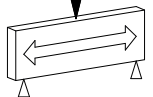
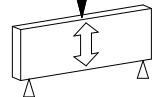
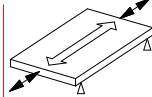
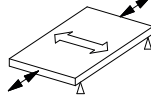
200 mm	$f_{m,d}$	8.4	8.8	5.6	8.5	$f_{c0,d}$	5.0	7.4
7L	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	3.4	5.1
20/40/20/40/	$E_{m,mean}$	6530	5470	4800	7200	$E_{c0,d}$	4800	7200
20/40/20	G_{mean}	50	50	500	500	$E_{t0,d}$	4800	7200
220 mm	$f_{m,d}$	13.0	4.0	10.3	3.8	$f_{c0,d}$	9.0	3.4
7L	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	6.2	2.3
40/20/40/20	$E_{m,mean}$	10030	1970	8730	3270	$E_{c0,d}$	8730	3270
40/20/40	G_{mean}	50	50	500	500	$E_{t0,d}$	8730	3270
240 mm	$f_{m,d}$	10.0	7.3	7.1	7.1	$f_{c0,d}$	6.2	6.2
7L	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	4.3	4.3
30/40/30/40	$E_{m,mean}$	7750	4250	6000	6000	$E_{c0,d}$	6000	6000
30/40/30	G_{mean}	50	50	500	500	$E_{t0,d}$	6000	6000

CLT-7DL

220 mm	$f_{m,d}$	15.2	1.1	11.5	2.6	$f_{c0,d}$	10.1	2.3
7DL	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	7.0	1.5
40+40/20/20	$E_{m,mean}$	11770	230	9820	2180	$E_{c0,d}$	9820	2180
20/40+40	G_{mean}	50	50	500	500	$E_{t0,d}$	9820	2180
240 mm	$f_{m,d}$	15.0	1.5	11.8	2.4	$f_{c0,d}$	10.3	2.1
7DL	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	7.1	1.4
40+40/20/40	$E_{m,mean}$	10610	390	10000	2000	$E_{c0,d}$	10000	2000
20/40+40	G_{mean}	50	50	500	500	$E_{t0,d}$	10000	2000
260 mm	$f_{m,d}$	14.7	2.1	10.8	3.3	$f_{c0,d}$	9.5	2.9
7DL	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	6.5	2.0
40+40/30/40	$E_{m,mean}$	11360	640	9230	2770	$E_{c0,d}$	9230	2770
30/40+40	G_{mean}	50	50	500	500	$E_{t0,d}$	9230	2770
280 mm	$f_{m,d}$	14.3	2.7	10.1	4.0	$f_{c0,d}$	8.9	3.5
7DL	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	6.1	2.4
40+40/40/40	$E_{m,mean}$	11090	910	8570	3430	$E_{c0,d}$	8570	3430
40/40+40	G_{mean}	50	50	500	500	$E_{t0,d}$	8570	3430

CLT – BASE DE DIMENSIONNEMENT

CLT-8DL

Epaisseur	   				 			
	$f_{m,d}$				$f_{c0,d}$			
300 mm	$f_{m,d}$	14.2	2.7	11.3	2.8	$f_{c0,d}$	11.3	2.8
8DL	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	6.8	1.7
40+40/30/40	$E_{m,mean}$	11010	990	9600	2400	$E_{c,0,d}$	9600	2400
+40/40+40	G_{mean}	50	50	500	500	$E_{t,0,d}$	9600	2400
320 mm	$f_{m,d}$	13.8	3.4	10.6	3.6	$f_{c0,d}$	10.6	3.5
8DL	$f_{v,d}$	0.8	0.8	1.5	1.5	$f_{t0,d}$	6.4	2.1
40+40/40/40	$E_{m,mean}$	10690	1310	9000	3000	$E_{c,0,d}$	9000	3000
+40/40+40	G_{mean}	50	50	500	500	$E_{t,0,d}$	9000	3000

Ces valeurs ne sont valables que pour les compositions de panneaux susmentionnées.

Qualité du bois : plis extérieurs C24
plis intérieurs C20

Réaction au feu : D-s2, do selon norme EN 13501.1, correspond à la catégorie de réaction au feu RF3

Indice d'incendie : 4.3 selon classification AEA1

Agrément Technique Européen : ETA-19/0675