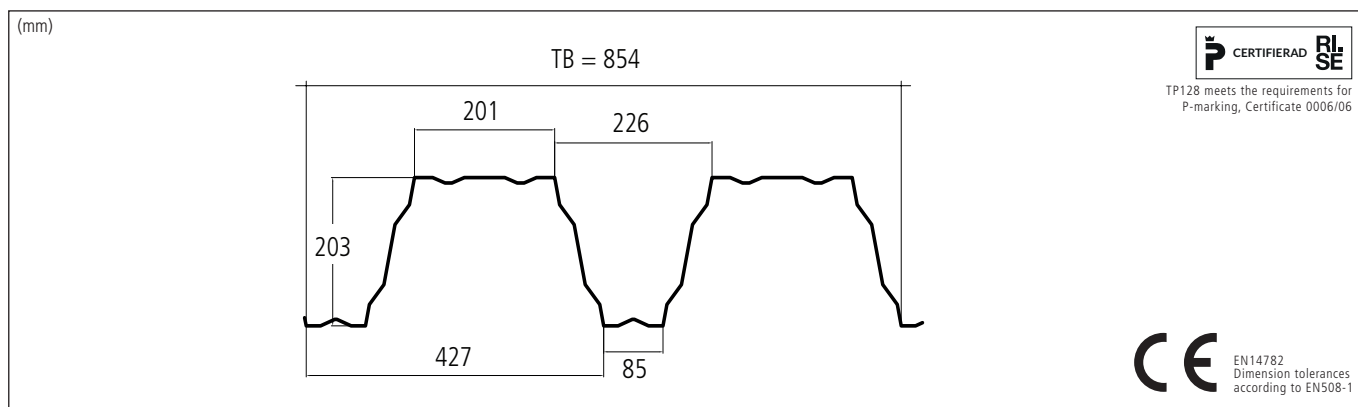




Cross sectional data - Areco TP200 - 15 - 420 MPa

Table 1

Sheet thickness, nominal	t_{nom}	mm	0,70	0,80	0,90	1,00	1,20	1,50
Sheet thickness, in calculation	t_{ber}	mm	0,665	0,760	0,866	0,955	1,144	1,42
Yield point	f_{ty}	N/mm ²	420	420	420	420	420	420
Mass	m	kg/m	8,40	9,60	10,80	12,00	14,40	18,00
Dead weight including side overlap	g	kN/m ²	0,098	0,112	0,126	0,141	0,169	0,211
Bearing narrow resistance $l_s=100$ mm	R_d	kN/m	14,30	19,20	25,40	31,20	45,00	68,80
Narrow flange under pressure	M_d	kNm/m	18,91	23,11	27,45	31,17	39,22	52,67
2:nd moment of area	I_{def}	mm ⁴ /mm	6572	7540	8614	9499	11379	14125
Bearing wide resistance $l_s=100$ mm	R_d	kN/m	14,30	18,90	24,10	29,10	41,30	64,00
Wide flange under pressure	M_d	kNm/m	14,79	18,41	22,75	26,02	33,11	45,94
2:nd moment of area	I_{def}	mm ⁴ /mm	6225	7160	8214	9107	11026	13873

Data for stressed skin calculations - Areco TP200 - 15 - 420 MPa

Table 2

Thickness	Shear buckling			End support		
	Flange	Web	Global	Framework bending effects	Reaction of purlins to stressed skin effect	Tensile force in fasteners
t_{nom}	V_f	V_w	$L^2 V_{gd}$	V_d	R_s/V	F_{c2}/V
mm	kN/m	kN/m	kN/m	kN/m		m
0,70	13,30	11,40	1508	3,00	1,35	287
0,80	19,10	16,40	1842	3,80	1,35	287
0,90	27,20	23,60	2240	4,80	1,35	287
1,00	35,50	30,90	2594	5,70	1,35	287
1,20	58,20	51,10	3402	7,90	1,35	287
1,50	105,50	93,60	4704	11,70	1,35	287

Areco TP200

ROOF Insulated L/200

Maximum loads in kN/m² - 420 MPa

Table 3

Uplagsfall	Thickness(mm)	Limitations	Span L (m)												Bearing
SINGLE SECTION	0,70	Moment (N. flange)	5,20	5,60	6,00	6,40	6,80	7,20	7,60	8,00	8,40	8,80	9,20	9,60	SHEET LOADED ON TWO SUPPORT (Mult i ple section)
		Deflection	3,978	3,43	2,988	2,626	2,326	2,075	1,862	1,681	1,525	1,389	1,271	1,167	
		Moment (W. flange)	3,25	2,602	2,116	1,744	1,453	1,224	1,041	0,893	0,771	0,671	0,587	0,517	
	0,80	Moment (N. flange)	5,087	4,386	3,821	3,358	2,975	2,653	2,382	2,149	1,949	1,776	1,625	1,493	
		Deflection	4,951	4,269	3,718	3,268	2,895	2,582	2,318	2,092	1,897	1,729	1,582	1,453	
		Moment (W. flange)	3,738	2,993	2,433	2,005	1,672	1,408	1,198	1,026	0,886	0,772	0,675	0,594	
	0,90	Moment (N. flange)	6,217	5,361	4,67	4,104	3,636	3,243	2,91	2,627	2,383	2,171	1,986	1,824	
		Deflection	6,119	5,276	4,596	4,04	3,578	3,192	2,865	2,585	2,345	2,137	1,955	1,795	
		Moment (W. flange)	4,288	3,433	2,792	2,3	1,917	1,615	1,373	1,175	1,017	0,885	0,774	0,682	
	1,00	Moment (N. flange)	7,386	6,369	5,548	4,876	4,319	3,853	3,458	3,121	2,83	2,579	2,36	2,167	
		Deflection	6,999	6,035	5,257	4,621	4,093	3,651	3,277	2,957	2,682	2,444	2,236	2,054	
		Moment (W. flange)	4,755	3,807	3,095	2,55	2,126	1,791	1,523	1,306	1,127	0,981	0,858	0,755	
	1,20	Moment (N. flange)	8,386	7,231	6,299	5,536	4,904	4,374	3,926	3,543	3,214	2,928	2,679	2,46	
		Deflection	8,906	7,679	6,69	5,879	5,208	4,646	4,169	3,763	3,413	3,11	2,845	2,613	
		Moment (W. flange)	5,756	4,608	3,747	3,088	2,574	2,168	1,844	1,581	1,366	1,188	1,039	0,915	
	1,50	Moment (N. flange)	10,55	9,1	7,927	6,967	6,172	5,505	4,941	4,459	4,044	3,685	3,372	3,097	
		Deflection	12,36	10,66	9,283	8,159	7,227	6,446	5,786	5,222	4,736	4,315	3,948	3,626	
		Moment (W. flange)	7,242	5,799	4,715	3,885	3,239	2,728	2,32	1,989	1,718	1,494	1,308	1,151	
		Moment (N. flange)	14,17	12,22	10,64	9,355	8,286	7,391	6,634	5,987	5,43	4,948	4,527	4,158	
		Deflection													
		Moment (W. flange)													
MULTIPLE SECTION	0,70	Bearer 200 (N. flange)	5,20	5,60	6,00	6,40	6,80	7,20	7,60	8,00	8,40	8,80	9,20	9,60	SHEET LOADED ON THREE SUPPORT (Mult i ple section)
		Deflection	2,467	2,231	2,028	1,854	1,702	1,569	1,452	1,348	1,255	1,172	1,097	1,029	
		Bearer 200 (W. flange)	8,119	6,501	5,285	4,355	3,631	3,059	2,6	2,23	1,926	1,675	1,466	1,29	
	0,80	Bearer 200 (N. flange)	2,267	2,04	1,847	1,681	1,538	1,412	1,302	1,205	1,118	1,041	0,972	0,909	
		Deflection	3,212	2,467	2,631	2,401	2,202	2,027	1,873	1,736	1,615	1,506	1,408	1,32	
		Bearer 200 (W. flange)	9,318	7,464	6,069	5,00	4,169	3,517	2,986	2,56	2,211	1,924	1,684	1,481	
	0,90	Bearer 200 (N. flange)	2,925	2,629	2,378	2,162	1,976	1,813	1,67	1,544	1,432	1,332	1,243	1,162	
		Deflection	4,083	3,678	3,333	3,036	2,779	2,554	2,357	2,182	2,026	1,887	1,763	1,65	
		Bearer 200 (W. flange)	10,665	8,539	6,942	5,72	4,769	4,018	3,416	2,929	2,53	2,20	1,926	1,695	
	1,00	Bearer 200 (N. flange)	3,682	3,308	2,99	2,717	2,481	2,276	2,096	1,937	1,796	1,67	1,557	1,455	
		Deflection	4,858	4,369	3,954	3,597	3,288	3,019	2,783	2,574	2,388	2,222	2,074	1,94	
		Bearer 200 (W. flange)	11,785	9,437	7,669	6,319	5,269	4,438	3,774	3,236	2,795	2,431	2,128	1,873	
	1,20	Bearer 200 (N. flange)	4,337	3,893	3,515	3,193	2,913	2,67	2,457	2,269	2,102	1,953	1,82	1,701	
		Deflection	6,617	5,936	5,359	4,864	4,437	4,066	3,74	3,453	3,199	2,972	2,769	2,586	
		Bearer 200 (W. flange)	14,16	11,339	9,218	7,596	6,33	5,335	4,536	3,889	3,36	2,922	2,557	2,25	
	1,50	Bearer 200 (N. flange)	5,865	5,253	4,734	4,291	3,909	3,577	3,287	3,031	2,804	2,603	2,423	2,261	
		Deflection	9,535	8,533	7,685	6,961	6,338	5,796	5,322	4,906	4,537	4,209	3,916	3,653	
		Bearer 200 (W. flange)	17,65	14,141	11,493	9,473	7,896	6,651	5,656	4,849	4,189	3,643	3,189	2,805	
		Moment (N. flange)	8,615	7,70	6,926	6,267	5,699	5,207	4,777	4,399	4,065	3,768	3,503	3,266	
		Deflection													
		Moment (W. flange)													

Explanations:

Moment (N. flange)	Bearing capacity in field at narrow flange against purlin
Deflection	Deflection L/200 (insulated)
Moment (W. flange)	Bearing capacity in field at wide flange against purlin
Bearer 200 (N. flange)	Bearing capacity for intermediate bearer at narrow flange against purlin
Bearer 200 (W. flange)	Bearing capacity for intermediate bearer at wide flange against purlin

Minimum fastening:

End support: 2 screw in the bottom of each profile	Support width:
Intermediate, End overlap: 1 screw in the bottom of each profile	≥ 100mm(end support)
Side overlap: Maximum c/c 500 mm	≥ 200mm (intermediate support)

With multiple section we recomend simple section mounting with continuous joint (simple overlap joint) according to this picture

