

SANS 10400-L:2020
Edition 4

Table 21 — Span table for steel lipped channel section purlins or rafters

Span Table for steel Lipped Channel section purlins or rafters (Spans in mm)											
Section Size		Design type & Loading									
Size Designation	Profile corner Radius	Purlin Design				Purlin Design				Rafter Design	
		Purlins spaced at 2,0 m c/c				Purlins spaced at 1,4 m c/c				Rafters at 0,76 m c/c	
		Metal Sheeting (0.05 kN/m ²)				Fibre Cement sheeting (0.26 kN/m ²)				Cement Tile (0.51 kN/m ²)	
		Deflection Limit -200				Deflection Limit -250				Deflection Limit -250	
		Roof Pitch				Roof Pitch				Roof Pitch	
		10°		15°		15°		22.5°		17.5°	26°
		Restrained	Unrestrained	Restrained	Unrestrained	Restrained	Unrestrained	Restrained	Unrestrained		
90x40x9x0.8FH	4	2584	2272	2617	2105	2477	1992	2539	1817	2422	2402
75x50x20x2.0	4	3188	3032	3243	2928	3069	2897	3147	2805	3010	2977
75x50x20x2.5	5	3407	3313	3450	3207	3265	3079	3347	2980	3202	3167
75x50x20x3.0	4.5	3601	3500	3645	3435	3451	3252	3537	3145	3384	3347
100x50x20x2.0	4	4009	3525	4059	3327	3842	3349	3939	3118	3767	3727
100x50x20x2.5	5	4272	3870	4325	3649	4094	3560	4197	3313	4015	3972
100x50x20x3.0	4.5	4520	4188	4576	3963	4332	3759	4441	3496	4248	4202
125x50x20x2.0	4	4775	3905	4834	3636	4576	3615	4691	3288	4487	4439
125x50x20x2.5	5	5094	4291	5158	3991	4882	3842	5005	3492	4788	4736
125x50x20x3.0	6	5361	4617	5428	4254	5138	4027	5267	3658	5038	4984
150x50x20x2.0	4	5513	4220	5582	3882	5284	3774	5417	3391	5181	5125
150x50x20x2.5	5	5887	4639	5960	4236	5642	4010	5784	3602	5533	5473
150x50x20x3.0	6	6200	4915	6278	4439	5942	4202	6092	3772	5827	5764
175x50x20x2.0	3	6252	4512	6330	4108	5992	3893	6143	3478	5876	5812
175x50x20x2.5	5	6659	4867	6742	4351	6382	4119	6542	3678	6258	6190
175x50x20x3.0	6	7018	5101	7105	4558	6726	4314	6895	3852	6595	6524
200x50x20x2.0	3.6	6884	4702	7014	4180	6655	3956	6822	3523	6526	6455
200x50x20x2.5	4.4	7429	5000	7521	4443	7120	4206	7299	3745	6982	6906
200x50x20x3.0	5.1	7842	5247	7939	4661	7515	4412	7704	3927	7370	7290

Notes: 1 The designs are based on the assumption that twisting or overturning restraint is provided.
2 Spans shown under (Restrained) => Designed for the condition of the purlin restrained in the roof plane by the sheeting or sag rods.
3 The values shown in **Bold** type are based on steel stress criteria while otherwise based on deflection criteria.