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SPA SIPs Ceiling Loading Capacity and Span Tables

DESIGN CRITERIA

1. DESIGN LIVE LOAD 0.25 kPa
2. DEAD LOAD 0.60 kPa
3. DEAD LOAD INCLUDED CEILING PANEL + INTERNAL LINING + VAPOUR MEMBRAINE + BATTENS + ROOF SHEETING + SOLAR PANELS
4. DEFLECTION LIMIT SPAN/300 UPTO 12MM

CEILING PANELS BOX SPLINES 90MM SPLINES Q = 0.25 kPa		MAX SINGLE SPAN (MM) FOR SERVICEABILITY LIMIT STATE					
		PANEL DESIGNATION					
		115	145	165	215	265	315
DEFLECTION LIMIT L/300 UPTO MAX 12MM	SINGLE SPAN	2030	2719	3106	4081	5061	6043
	2 SPAN CONT.	2715	3638	4155	5459	6769	8083

CEILING PANELS BOX SPLINES 150MM SPLINES Q = 0.25 kPa		MAX SINGLE SPAN (MM) FOR SERVICEABILITY LIMIT STATE					
		PANEL DESIGNATION					
		115	145	165	215	265	315
DEFLECTION LIMIT L/300 UPTO MAX 12MM	SINGLE SPAN	2157	2898	3285	4259	5238	6220
	2 SPAN CONT.	2885	3877	4395	5698	7007	8320

CEILING PANELS MGP10 SPLINES Q = 0.25 kPa		MAX SINGLE SPAN (MM) FOR SERVICEABILITY LIMIT STATE					
		PANEL DESIGNATION					
		115	145	165	215	265	315
DEFLECTION LIMIT L/300 UPTO MAX 12MM	SINGLE SPAN	2181	2900	3378	4575	5771	6968
	2 SPAN CONT.	2918	3879	4519	6120	7721	9321

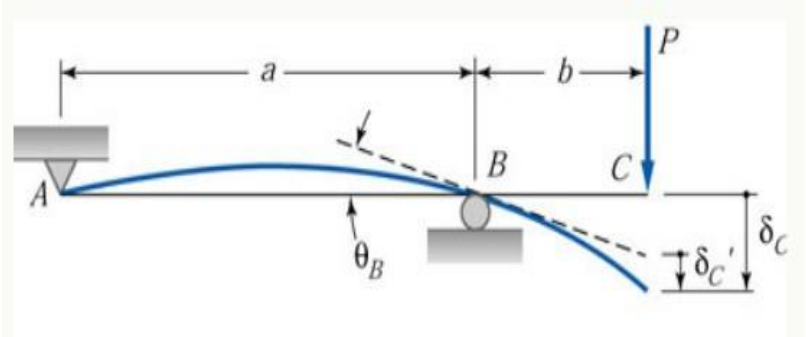
CEILING PANELS LVL SPLINES Q = 0.25 kPa		MAX SINGLE SPAN (MM) FOR SERVICEABILITY LIMIT STATE					
		PANEL DESIGNATION					
		115	145	165	215	265	315
DEFLECTION LIMIT L/300 UPTO MAX 12MM	SINGLE SPAN	2273	3021	3520	4767	6013	7259
	2 SPAN CONT.	3040	4041	4708	6376	8044	9710

ADDITIONAL NOTES:

CANTELEVERS:

The above values are assessed under the strength capacity of the panels only, assuming deflection criteria is not critical.

Deflections of a cantilevered beam is complicated as illustrated below:



The load resisting width of the panel would need to be checked case by case depending on the layout and location of the load.

Where the deflection criteria is applicable, it should be checked by a competent structural engineer.

For a roof cantilevered eave, canopy, the wind pressure could be much higher than the overall roof area, which could be 3 times higher, depending on the high, chape, location of the cantilever, all cantilevered should be checked by a competent structural engineer.

Maximum Roof Cantilever (strength only) along the Width

SPA SIPs: 25% of the internal bay (back span) under uniformly distributed loads only.

Maximum Roof Cantilever (strength only) along the Pitch

SPA SIPs: 25% of the back span under uniformly distributed loads only.

Point loads and deflections of the cantilever must be converted to equivalent UDL effects and checked by a competent structural engineer.

PANETRATIONSs

For full width opening in a single panel a reduction to 80% of the max span is appropriate

Flashing details.

Matching the panel thickness + external & internal cladding folded from 1.9mm Galv sheet up to one panel wide opening and 2.4mm Galv sheet for upto 2 panels wide opening (Welded frame).

Top flange overlap one rib

The bottom flange min. width 75mm