

Determination of load/deflection for structural profiles

Limiting deflection to span/200 = 0.5%

E modulus is taken at

23000  
17000

This is the limit for walkway deflection and sufficiently low stress that we can ignore shear  
Equations used are for simply supported beam

MPa  
MPa

Supported at the end and UDL

UDL equation from Green Book p27, fig 24 no 4 on Ihs  
Pin Point equation, Green book, p27, fig 24, no 3

UNIFORMLY DISTRIBUTED LOAD

Profile	Moment of Inertia	span m	1	1.25	1.5	2.5	3.0	3.5	4.0	4.5	5.0	6.0	9.0
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<b>Unistrut GRP</b> 41.5x41.5x3.5	130,435 load N load kg	851 86.8	545 55.6	378 38.6	136 13.9	95 9.6	70 7.1	53 5.4	42 4.3	34 3.5	24 2.4	11 1.1
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POINT LOAD AT CENTRE OF SPAN

Profile	Moment of Inertia	span m	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
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<b>Unistrut GRP</b> 41.5x41.5x3.5	130,435 load N load kg	532 54.2	341 34.7	237 24.1	85 8.7	59 6.0	43 4.4	33 3.4	26 2.7	21 2.2	15 1.5	7 0.7
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