

# Channel Support

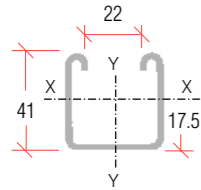
S100 & S200 Ranges



**S100**

Size:- 41 x 41mm. Available in Standard 3 and 6 metre lengths  
 Finishes:- Pre-Galvanised, Post Galvanised, Hot Rolled or Stainless Steel  
 Other finishes available upon request.  
 Weight:- 2.59 Kg/M  
 Gauge:- 2.5mm

**DIMENSIONS**

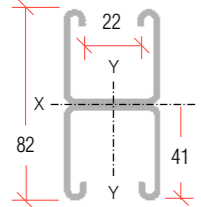


Span or Column Effective Length (mm)	UNIFORMLY DISTRIBUTED LOAD				CENTRALLY CONCENTRATED LOAD				COLUMN LOAD	
	Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Load Applied at the centroid (Kg)	Load Applied at the face (Kg)
	Load (Kg)	Deflection (mm)	Span /200	Span /360	Load (Kg)	Deflection (mm)	Span /200	Span /360		
500	954	1.02	954	954	477	0.82	477	477	5003	2129
1000	477	4.09	477	323	239	3.28	239	202	3343	1422
1500	318	9.21	259	144	159	7.38	159	90	2510	1068
2000	239	16.37	145	81	119	13.12	91	51	2009	855
2500	191	25.58	93	52	95	20.50	58	32	1674	712
3000	159	36.84	65	36	80	29.52	40	22	-	-

**SD100**

Size:- 41 x 82mm. Available in Standard 3 and 6 metre lengths  
 Finishes:- Pre-Galvanised, Post Galvanised, Hot Rolled or Stainless Steel  
 Other finishes available upon request.  
 Weight:- 5.18 Kg/M  
 Gauge:- 2.5mm

**DIMENSIONS**

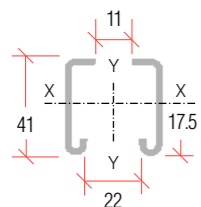


Span or Column Effective Length (mm)	UNIFORMLY DISTRIBUTED LOAD				CENTRALLY CONCENTRATED LOAD				COLUMN LOAD	
	Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Load Applied at the centroid (Kg)	Load Applied at the face (Kg)
	Load (Kg)	Deflection (mm)	Span /200	Span /360	Load (Kg)	Deflection (mm)	Span /200	Span /360		
500	2766	0.59	2766	2766	1383	0.47	1383	1383	10007	3511
1000	1383	2.35	1383	1383	691	1.88	691	691	6686	2346
1500	922	5.29	922	725	461	4.24	461	453	5020	1761
2000	691	9.40	691	408	346	7.54	346	255	4018	1410
2500	553	14.69	470	261	277	11.77	277	163	3350	1175
3000	461	21.16	326	181	230	16.95	204	113	-	-

**SL100**

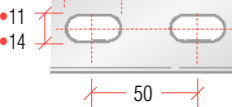
Size:- 41 x 41mm. Available in Standard 3 and 6 metre lengths  
 Finishes:- Pre-Galvanised, Post Galvanised, Hot Rolled or Stainless Steel  
 Other finishes available upon request.  
 Weight:- 2.50 Kg/M  
 Gauge:- 2.5mm

**DIMENSIONS**



Span or Column Effective Length (mm)	UNIFORMLY DISTRIBUTED LOAD				CENTRALLY CONCENTRATED LOAD				COLUMN LOAD	
	Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Load Applied at the centroid (Kg)	Load Applied at the face (Kg)
	Load (Kg)	Deflection (mm)	Span /200	Span /360	Load (Kg)	Deflection (mm)	Span /200	Span /360		
500	887	1.12	887	887	443	0.90	443	443	4580	2029
1000	443	4.50	443	273	222	3.60	222	171	3087	1368
1500	296	10.12	219	121	148	8.11	137	76	2327	1031
2000	222	18.00	123	68	111	14.42	77	43	1868	828
2500	177	28.12	79	44	89	22.53	49	27	1560	691
3000	148	40.49	55	30	74	32.44	34	19	-	-

**SLOTTED FIXINGS:-** SL100/•11mm = M10 Fixing SL100/•14mm = M12 Fixing  
 NB. Load carrying capacity is affected by the Hot Dipped Galvanising Process please contact the manufacturer for details



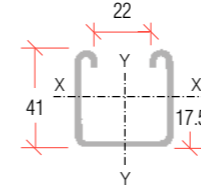
**AXIS**

Reference	Axis X - X			Axis Y - Y			Area cm <sup>2</sup>
	lxx cm <sup>4</sup>	Zxx cm <sup>3</sup>	rxx cm	lyy cm <sup>4</sup>	Zyy cm <sup>3</sup>	ryy cm	
S100	7.25	3.25	1.49	9.25	4.48	1.69	3.25
SD100	36.59	9.42	2.37	18.50	8.96	1.69	6.50
SL100	6.13	3.02	1.45	9.19	4.45	1.78	2.90

**SR100**

Size:- 41 x 41mm. Available in Standard 3 and 6 metre lengths  
 Finishes:- Pre-Galvanised, Post Galvanised, Hot Rolled or Stainless Steel  
 Other finishes available upon request.  
 Weight:- 2.59 Kg/M  
 Gauge:- 2.5mm

**DIMENSIONS**

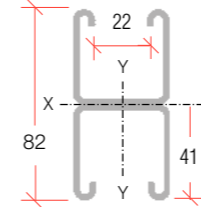


Span or Column Effective Length (mm)	UNIFORMLY DISTRIBUTED LOAD				CENTRALLY CONCENTRATED LOAD				COLUMN LOAD	
	Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Load Applied at the centroid (Kg)	Load Applied at the face (Kg)
	Load (Kg)	Deflection (mm)	Span /200	Span /360	Load (Kg)	Deflection (mm)	Span /200	Span /360		
500	954	1.02	954	954	477	0.82	477	477	5003	2129
1000	477	4.09	477	323	239	3.28	239	202	3343	1422
1500	318	9.21	259	144	159	7.38	159	90	2510	1068
2000	239	16.37	145	81	119	13.12	91	51	2009	855
2500	191	25.58	93	52	95	20.50	58	32	-	-
3000	159	36.84	65	36	80	29.52	40	22	-	-

**SRSD100**

Size:- 41 x 82mm. Available in Standard 3 and 6 metre lengths  
 Finishes:- Pre-Galvanised, Post Galvanised, Hot Rolled or Stainless Steel  
 Other finishes available upon request.  
 Weight:- 5.18 Kg/M  
 Gauge:- 2.5mm

**DIMENSIONS**

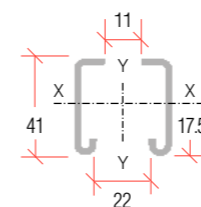


Span or Column Effective Length (mm)	UNIFORMLY DISTRIBUTED LOAD				CENTRALLY CONCENTRATED LOAD				COLUMN LOAD	
	Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Load Applied at the centroid (Kg)	Load Applied at the face (Kg)
	Load (Kg)	Deflection (mm)	Span /200	Span /360	Load (Kg)	Deflection (mm)	Span /200	Span /360		
500	2766	0.59	2766	2766	1383	0.47	1383	1383	10007	3511
1000	1383	2.35	1383	1383	691	1.88	691	691	6686	2346
1500	922	5.29	922	725	461	4.24	461	453	5020	1761
2000	691	9.40	691	408	346	7.54	346	255	4018	1410
2500	553	14.69	470	261	277	11.77	277	163	3350	1175
3000	461	21.16	326	181	230	16.95	204	113	2872	1007

**SRSL100**

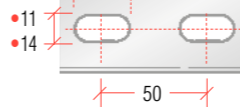
Size:- 41 x 41mm. Available in Standard 3 and 6 metre lengths  
 Finishes:- Pre-Galvanised, Post Galvanised, Hot Rolled or Stainless Steel  
 Other finishes available upon request.  
 Weight:- 2.50 Kg/M  
 Gauge:- 2.5mm

**DIMENSIONS**



Span or Column Effective Length (mm)	UNIFORMLY DISTRIBUTED LOAD				CENTRALLY CONCENTRATED LOAD				COLUMN LOAD	
	Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Load Applied at the centroid (Kg)	Load Applied at the face (Kg)
	Load (Kg)	Deflection (mm)	Span /200	Span /360	Load (Kg)	Deflection (mm)	Span /200	Span /360		
500	887	1.12	887	887	443	0.90	443	443	4580	2029
1000	443	4.50	443	273	222	3.60	222	171	3087	1368
1500	296	10.12	219	121	148	8.11	137	76	2327	1031
2000	222	18.00	123	68	111	14.42	77	43	1868	828
2500	177	28.12	79	44	89	22.53	49	27	1560	691
3000	148	40.49	55	30	74	32.44	34	19	-	-

**SLOTTED FIXINGS:-** SL100/•11mm = M10 Fixing SL100/•14mm = M12 Fixing  
 NB. Load carrying capacity is affected by the Hot Dipped Galvanising Process please contact the manufacturer for details



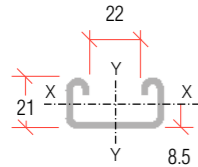
**AXIS**

Reference	Axis X - X			Axis Y - Y			Area cm <sup>2</sup>
	lxx cm <sup>4</sup>	Zxx cm <sup>3</sup>	rxx cm	lyy cm <sup>4</sup>	Zyy cm <sup>3</sup>	ryy cm	
SR100	7.25	3.25	1.49	9.25	4.48	1.69	3.25
SRSD100	36.59	9.42	2.37	18.50	8.96	1.69	6.50
SRSL100	6.13	3.02	1.45	9.19	4.45	1.78	2.90

**S200**

Size:- 41 x 21mm. Available in Standard 3 and 6 metre lengths  
 Finishes:- Pre-Galvanised, Post Galvanised, Hot Rolled or Stainless Steel  
 Other finishes available upon request.  
 Weight:- 1.79 Kg/M  
 Gauge:- 2.5mm

**DIMENSIONS**

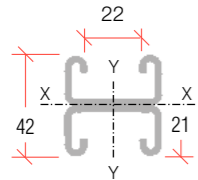


Span or Column Effective Length (mm)	UNIFORMLY DISTRIBUTED LOAD				CENTRALLY CONCENTRATED LOAD				COLUMN LOAD	
	Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Load Applied at the centroid (Kg)	Load Applied at the face (Kg)
	Load (Kg)	Deflection (mm)	Span /200	Span /360	Load (Kg)	Deflection (mm)	Span /200	Span /360		
500	330	2.14	330	214	165	1.71	165	134	3486	1326
1000	165	8.56	96	53	83	6.86	60	33	2296	873
1500	110	19.26	43	24	55	15.43	27	15	-	-
2000	83	34.24	24	13	41	27.43	15	8	-	-
2500	66	53.50	15	9	33	42.87	10	5	-	-
3000	55	77.03	11	6	28	61.73	7	4	-	-

**SD200**

Size:- 41 x 42mm. Available in Standard 3 and 6 metre lengths  
 Finishes:- Pre-Galvanised, Post Galvanised, Hot Rolled or Stainless Steel  
 Other finishes available upon request.  
 Weight:- 3.58 Kg/M  
 Gauge:- 2.5mm

**DIMENSIONS**

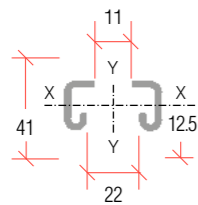


Span or Column Effective Length (mm)	UNIFORMLY DISTRIBUTED LOAD				CENTRALLY CONCENTRATED LOAD				COLUMN LOAD	
	Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Load Applied at the centroid (Kg)	Load Applied at the face (Kg)
	Load (Kg)	Deflection (mm)	Span /200	Span /360	Load (Kg)	Deflection (mm)	Span /200	Span /360		
500	975	1.33	975	975	488	1.07	488	488	6973	2375
1000	488	5.34	456	253	244	4.28	244	158	4593	1564
1500	325	12.01	203	113	163	9.63	127	70	3424	1166
2000	244	21.36	114	63	122	17.11	71	40	2729	929
2500	195	33.37	73	41	98	26.74	46	25	-	-
3000	163	48.06	51	28	81	38.51	32	18	-	-

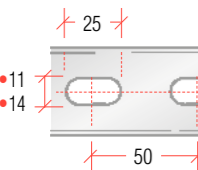
**SL200**

Size:- 41 x 21mm. Available in Standard 3 and 6 metre lengths  
 Finishes:- Pre-Galvanised, Post Galvanised, Hot Rolled or Stainless Steel  
 Other finishes available upon request.  
 Weight:- 1.69 Kg/M  
 Gauge:- 2.5mm

**DIMENSIONS**



Span or Column Effective Length (mm)	UNIFORMLY DISTRIBUTED LOAD				CENTRALLY CONCENTRATED LOAD				COLUMN LOAD	
	Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Load Applied at the centroid (Kg)	Load Applied at the face (Kg)
	Load (Kg)	Deflection (mm)	Span /200	Span /360	Load (Kg)	Deflection (mm)	Span /200	Span /360		
500	308	2.42	308	177	154	1.94	154	110	3062	1298
1000	154	9.69	79	44	77	7.76	50	28	2044	861
1500	103	21.80	35	20	51	17.47	22	12	-	-
2000	77	38.76	20	11	39	31.06	12	7	-	-
2500	62	60.56	13	7	31	48.53	8	4	-	-
3000	51	87.21	9	5	26	69.88	6	3	-	-



**SLOTTED FIXINGS:-** SL100/•11mm = M10 Fixing SL100/•14mm = M12 Fixing  
 NB. Load carrying capacity is affected by the Hot Dipped Galvanising Process please contact the manufacturer for details

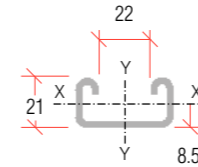
**AXIS**

Reference	Axis X - X			Axis Y - Y			Area cm <sup>2</sup>
	lxx cm <sup>4</sup>	Zxx cm <sup>3</sup>	rxx cm	lyy cm <sup>4</sup>	Zyy cm <sup>3</sup>	ryy cm	
S200	1.20	1.06	0.73	5.37	2.60	1.55	2.23
SD200	5.68	3.13	1.13	10.74	5.20	1.55	4.46
SL200	0.99	0.99	0.73	5.31	2.57	1.68	1.88

**SR200**

Size:- 41 x 21mm. Available in Standard 3 and 6 metre lengths  
 Finishes:- Pre-Galvanised, Post Galvanised, Hot Rolled or Stainless Steel  
 Other finishes available upon request.  
 Weight:- 1.79 Kg/M  
 Gauge:- 2.5mm

**DIMENSIONS**

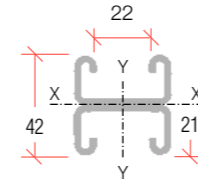


Span or Column Effective Length (mm)	UNIFORMLY DISTRIBUTED LOAD				CENTRALLY CONCENTRATED LOAD				COLUMN LOAD	
	Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Load Applied at the centroid (Kg)	Load Applied at the face (Kg)
	Load (Kg)	Deflection (mm)	Span /200	Span /360	Load (Kg)	Deflection (mm)	Span /200	Span /360		
500	330	2.14	330	214	165	1.71	165	134	3486	1326
1000	165	8.56	96	53	83	6.86	60	33	2296	873
1500	110	19.26	43	24	55	15.43	27	15	-	-
2000	83	34.24	24	13	41	27.43	15	8	-	-
2500	66	53.50	15	9	33	42.87	10	5	-	-
3000	55	77.03	11	6	28	61.73	7	4	-	-

**SRSD200**

Size:- 41 x 42mm. Available in Standard 3 and 6 metre lengths  
 Finishes:- Pre-Galvanised, Post Galvanised, Hot Rolled or Stainless Steel  
 Other finishes available upon request.  
 Weight:- 3.58 Kg/M  
 Gauge:- 2.5mm

**DIMENSIONS**

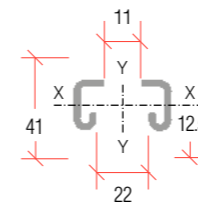


Span or Column Effective Length (mm)	UNIFORMLY DISTRIBUTED LOAD				CENTRALLY CONCENTRATED LOAD				COLUMN LOAD	
	Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Load Applied at the centroid (Kg)	Load Applied at the face (Kg)
	Load (Kg)	Deflection (mm)	Span /200	Span /360	Load (Kg)	Deflection (mm)	Span /200	Span /360		
500	975	1.33	975	975	488	1.07	488	488	6973	2375
1000	488	5.34	456	253	244	4.28	244	158	4593	1564
1500	325	12.01	203	113	163	9.63	127	70	3424	1166
2000	244	21.36	114	63	122	17.11	71	40	2729	929
2500	195	33.37	73	41	98	26.74	46	25	-	-
3000	163	48.06	51	28	81	38.51	32	18	-	-

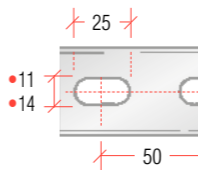
**SRSL200**

Size:- 41 x 21mm. Available in Standard 3 and 6 metre lengths  
 Finishes:- Pre-Galvanised, Post Galvanised, Hot Rolled or Stainless Steel  
 Other finishes available upon request.  
 Weight:- 1.69 Kg/M  
 Gauge:- 2.5mm

**DIMENSIONS**



Span or Column Effective Length (mm)	UNIFORMLY DISTRIBUTED LOAD				CENTRALLY CONCENTRATED LOAD				COLUMN LOAD	
	Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Stress Limited Load and Deflection		Deflection Limited Load (Kg)		Load Applied at the centroid (Kg)	Load Applied at the face (Kg)
	Load (Kg)	Deflection (mm)	Span /200	Span /360	Load (Kg)	Deflection (mm)	Span /200	Span /360		
500	308	2.42	308	177	154	1.94	154	110	3062	1298
1000	154	9.69	79	44	77	7.76	50	28	2044	861
1500	103	21.80	35	20	51	17.47	22	12	-	-
2000	77	38.76	20	11	39	31.06	12	7	-	-
2500	62	60.56	13	7	31	48.53	8	4	-	-
3000	51	87.21	9	5	26	69.88	6	3	-	-



**SLOTTED FIXINGS:-** SL100/•11mm = M10 Fixing SL100/•14mm = M12 Fixing  
 NB. Load carrying capacity is affected by the Hot Dipped Galvanising Process please contact the manufacturer for details

**AXIS**

Reference	Axis X - X			Axis Y - Y			Area cm <sup>2</sup>
	lxx cm <sup>4</sup>	Zxx cm <sup>3</sup>	rxx cm	lyy cm <sup>4</sup>	Zyy cm <sup>3</sup>	ryy cm	
S200	1.20	1.06	0.73	5.37	2.60	1.55	2.23
SD200	5.68	3.13	1.13	10.74	5.20	1.55	4.46
SL200	0.99	0.99	0.73	5.31	2.57	1.68	1.88

**CONCRETE INSERTS  
(MANUFACTURED TO  
ORDER)**

**MATERIAL:-**

BS 1449 HR4 PO Z25 EN10147:1992 FE  
250-G275 PG  
BS 1449 Part 2  
Rolling Tolerances To  
BS 2994  
Concrete Strength:-  
32N/M<sup>2</sup>

**Finish:**

Standard Finish:-

HDG = BS 729

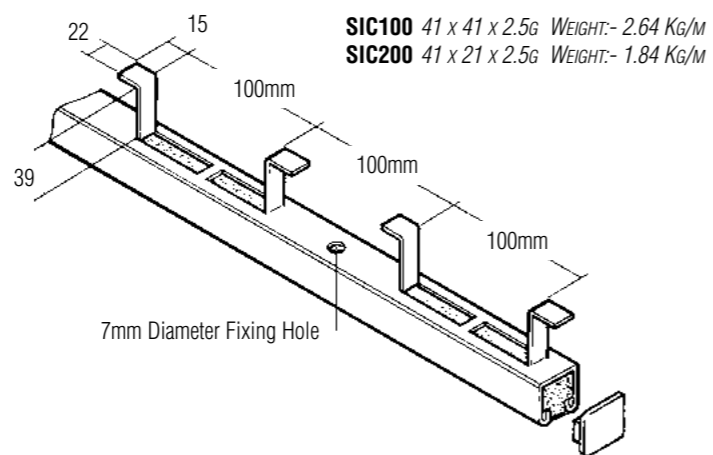
PG = Pre Galvanised BS2989

Other finishes and materials available upon request.

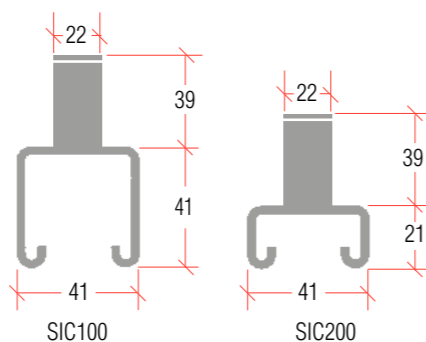
Concrete Inserts are available in standard lengths of 3 and 6 metres which are supplied complete with polystyrene infill and End Caps in place.

Non-standard lengths can be supplied in increments of 200mm. For shorter lengths, please consult our technical/sales department.

Concrete Inserts are manufactured from standard channel sections S100 and S200. The inclusion of Concrete Inserts into walls, floors, ceilings and ducts etc. at the initial stages of construction provides a flush surface for fixing and supporting electrical and mechanical services.

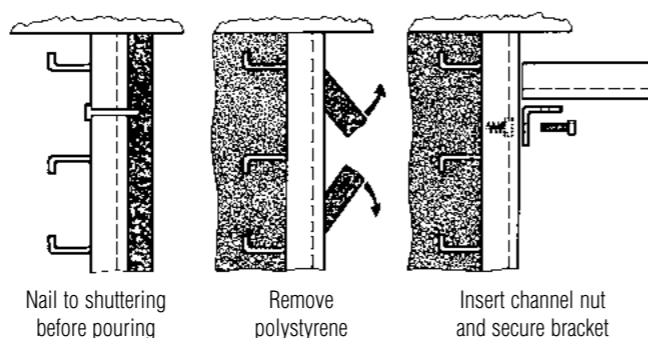


**SIC100** 41 x 41 x 2.5G WEIGHT:- 2.64 Kg/M  
**SIC200** 41 x 21 x 2.5G WEIGHT:- 1.84 Kg/M



**END CAP**

If site installation requires concrete insert to be cut end caps MUST be re-inserted at each end.

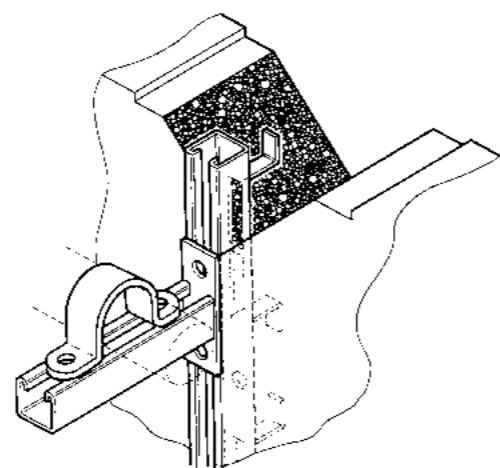


**RECOMMENDED LOADINGS**

Results prepared from tests carried out by the department of Civil Engineering at the University of Birmingham

	SIC200	SIC100
Point Load (250mm centres)	550 Kgs	750 Kgs
Continuous Load (per 1000mm)	2200 Kgs	3000 Kgs

Concrete Strength 32MN/M<sup>2</sup>



Drawings not to scale. All dimensions in mm.

**MATERIAL AND FINISH STANDARDS:-**

The following materials are used in the manufacture of Hi-Strut channels:-

1. Pre-Galvanised (PG) BSEN 10147: 1992, S280 GD + Z275.
2. Hot Rolled Pickled & Oiled (HRPO) BS 1449: 1991.
3. Post Galvanised (HDG) BS 1449: 1991, BS 729.
4. Stainless Steel (SS) BSEN 10088-2: 1995, 316L X2CrNiMo17-12-2.

**CHANNEL LOAD TABLE**

**ASSUMPTIONS:-**

1. All loads are calculated in accordance with BS5950:Part 5: 1998 Code of Practice, for the design of cold formed sections.
2. The minimum yield stress of pre-galvanised steel used in the manufacturer of Hi-STRUT channels is  $Y_s = 250 \text{ N/mm}^2$ .
3. Beam loads and corresponding deflections are calculated using a yield of  $250 \text{ N/mm}^2$ . These values are calculated in accordance with section 3.4 of BS5950:Part 5.
4. All beam loads and deflections stated do not apply to material that has been post galvanised i.e. (heat treatment has been applied after forming). If beam loads and deflections are required for post galvanised products please contact the manufacturer.
5. A global safety factor of 1.6 was used to determine safe working loads from limited state analysis.
6. Column loads are calculated in accordance with section six BS5950:Part 5. Effective column lengths to be determined by the designer in accordance with Table 9 BS5950:Part 5.
7. Column loads have been calculated so that the maximum slenderness ratio  $L^e/r$  does not exceed  $180^\circ$ .
8. Beams are assumed to be simply supported and provide adequate lateral restraint over the given span.
9. Beam loads are applied through the shear of the section in the direction indicated in the tables.
10. Alternative beam safe load tables are provided for a uniformly distributed load or concentrated near the centre of the span. (See Figure 1.).
11. Example of how to evaluate the ultimate load on an intermediate span. Extract from the S100 Load Table not shown in tables.

Span (mm)	Load (kg)
(a) 500	(c) 954 for 500 span
(e) 825 = New Intermediate Span	
(b) 1000	(d) 477 for 1000 span

Find the ultimate load at a span of 825mm, using the following formula.

$$\text{New Ultimate Load} = C - \left\{ \left[ \frac{c-d}{b-a} \right] \times (c-a) \right\} \text{ New Ultimate Load} = 954 - \left\{ \left[ \frac{(954-477)}{(1000-500)} \right] \times (825-500) \right\} = 644\text{kg}$$

**FIGURE 1.**



**Hadley Industries plc (Group Headquarters)**

Downing Street  
Smethwick, West Midlands  
B66 2PA

Tel: +44 (0) 121 555 1300

Email: [ask.hadley@hadleygroup.com](mailto:ask.hadley@hadleygroup.com)

**Hadley Industries (Middle East) FZE**

PO Box 61322  
Jebel Ali, Dubai  
United Arab Emirates

Tel: +971 (4) 883 3811

Email: [hi@hadleygroup.ae](mailto:hi@hadleygroup.ae)

**Hadley Thailand Limited**

38/10 Moo 5  
Laem Chabang Industrial Estate  
Tungsukla, Sriracha  
Chonburi 20230  
Thailand

Tel: +66 (0) 38 495076-7

Email: [sales@hadleythailand.co.th](mailto:sales@hadleythailand.co.th)

**Hadley Profiltechnik GmbH**

Buenerhelfstrasse 9  
D-44379 Dortmund  
Germany

Tel: +49 (0) 231 967 8620

Email: [info@hadleygroup.de](mailto:info@hadleygroup.de)

**Hadley Steel Framing**

123 West Bromwich Street  
Oldbury, West Midlands  
B69 3AZ

Tel: +44 (0) 121 555 1385

Email: [sales@hadleysteelframing.com](mailto:sales@hadleysteelframing.com)

**Hadley Industries plc - France**

Batiment 4 - Nikolsen  
20 rue Lavoisier  
95300 PONTOISE  
France

Tel: 0033 (0) 1 34 22 30 05

Email: [ask.hadley@hadleygroup.com](mailto:ask.hadley@hadleygroup.com)