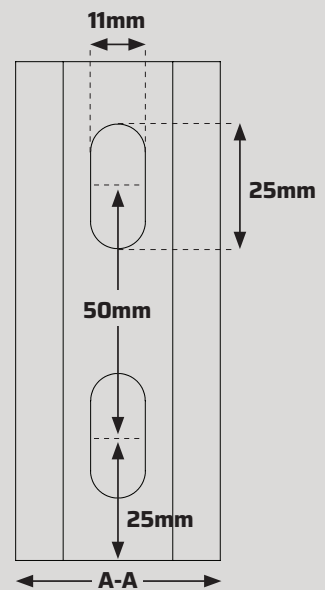
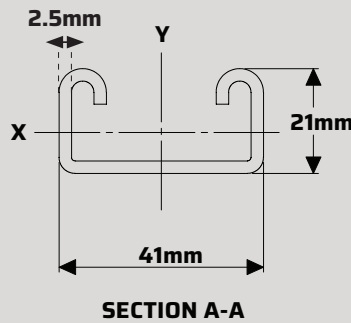
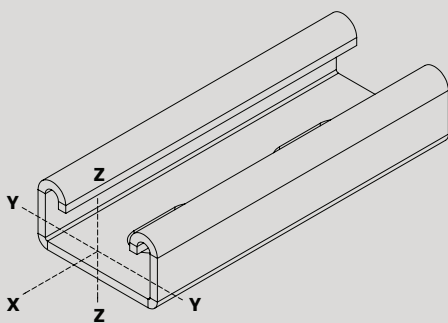
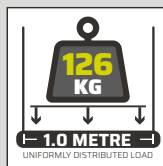


# 41 x 21 x 2.5 - Slotted Channel



**TECHNICAL DATA**

<b>Product Weight:</b>	1.74 kg/m
<b>Minimum Yield Stress:</b>	280N/mm <sup>2</sup>
<b>Uniformly distributed load for 1M (Fmax):</b>	126 kg/m



Area	MOMENT OF INERTIA		SECTION MODULUS		RADIUS OF GYRATION	
	I y-y	I z-z	S y-y	S z-z	R y-y	R z-z
2.06 cm <sup>2</sup>	1.09cm <sup>4</sup>	5.37cm <sup>4</sup>	0.78cm <sup>3</sup>	2.62cm <sup>3</sup>	0.73cm	1.61cm

**FINISH DATA**

**PRE-GALVANISED CHANNELS (PG)**

<b>Material Standard:</b>	BS EN 10346 / BS 6946
<b>Material Specification:</b>	S280GD + Z275
<b>Minimum Yield Stress:</b>	280N/mm <sup>2</sup>
<b>PG Minimum Zinc Coating Mass:</b>	275g/m <sup>2</sup>
<b>PG Typical Zinc Coating Thickness:</b>	20µm

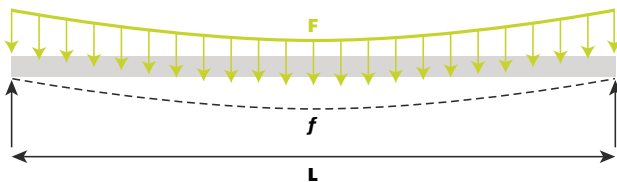
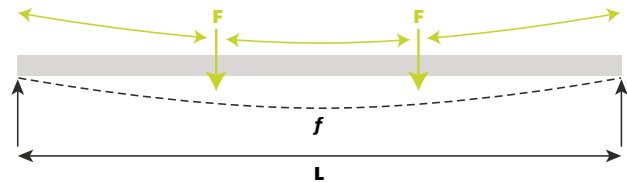
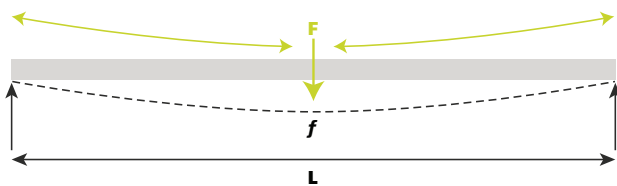
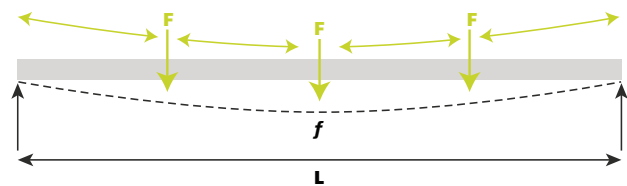
**HOT-DIP GALVANISED CHANNELS (HDG)**

<b>Material Standard:</b>	BS EN 10346 / BS 6946
<b>Material Specification:</b>	S280GD + BS EN 1461
<b>Minimum Yield Strength:</b>	280N/mm <sup>2</sup>
<b>Hot Dip Galvanising to:</b>	BS EN 1461:2009
<b>Minimum Average Coating Thickness:</b>	55µm

# 41 x 21 x 2.5 - Slotted Channel

**LOAD DATA**

CODE	FINISH HDG / PG	LENGTH (L) mm	ULTIMATE LOADS - LOAD 1		DESIGN LOADS			
			ULTIMATE UNIFORMLY DISTRIBUTED LOAD	MAX DEFLECTION	LOAD 1 - SAFE UNIFORMLY DISTRIBUTED LOAD	LOAD 2 - SAFE CENTRAL POINT LOAD	LOAD 3 - SAFE TWO POINT LOAD	LOAD 4 - SAFE THREE POINT LOAD
			Fmax kN	$f_{max}$ mm	F kN	F kN	F kN	F kN
<b>HOT-DIP GALVANISED</b>								
2011 11256	HDG	3000	0.611	15.83	0.359	0.354	0.201	0.119
2011 16966	HDG	6000	0.299	61.98	0.176	0.165	0.100	0.059
<b>PRE-GALVANISED</b>								
2011 01005	PG	3000	0.611	15.83	0.359	0.354	0.201	0.119
2011 01006	PG	6000	0.299	61.98	0.176	0.165	0.100	0.059
<b>PRE-CUT LENGTHS</b>								
2015 01132	PG	250	2.362	0.15	<i>1.389</i>	<i>1.235</i>	<i>1.200</i>	<i>0.500</i>
2015 01137	PG	500	1.638	0.20	<i>0.964</i>	<i>0.971</i>	<i>0.747</i>	<i>0.394</i>
2015 01142	PG	750	1.492	0.6	<i>0.878</i>	<i>0.694</i>	<i>0.709</i>	<i>0.376</i>
2015 01118	PG	1000	1.423	1.37	<i>0.837</i>	<i>0.671</i>	<i>0.706</i>	<i>0.366</i>
2015 01121	PG	1200	1.395	2.31	0.821	0.657	0.616	0.359
2015 01124	PG	1500	1.311	4.25	0.771	0.644	0.389	0.241
2015 01127	PG	1700	1.152	5.43	0.677	0.638	0.352	0.213
2015 01130	PG	2000	0.968	7.43	0.569	0.561	0.302	0.184

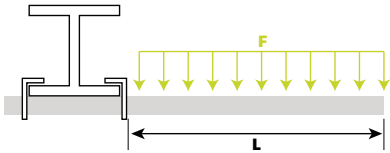
**LOAD 1** Safe Uniformly Distributed Load

**LOAD 3** Safe Two Point Load

**LOAD 2** Safe Central Point Load

**LOAD 4** Safe Three Point Load

**Notes to Beam Loads data:**

- Yield Stress = 280N/mm<sup>2</sup>
- Modulus of elasticity: E = 210kN/mm<sup>2</sup>
- All beam loads are for simply supported beams
- All load data is for applied loads. The channel self-weight is already deducted.
- Ultimate Loads - maximum uniformly distributed load limited by stress using safety coefficient = 1.7
- Design Loads - maximum loads limited by deflection:  $f = L/200$ . (Values in italics are limited by stress not deflection)

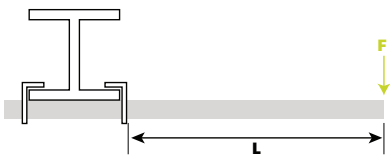
# Cantilver & Column Load Data - 41 x 21 x 2.5 Slotted Channel

## CANTILEVER LOADS

**LOAD 1** Uniformly Distributed Load

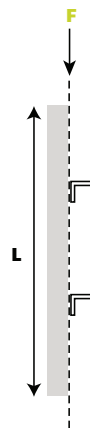


**LOAD 2** End Point Load



## COLUMN LOADS

**LOAD 1** Eccentrically Loaded



**LOAD 2** Concentrically Loaded



CANTILEVER - DESIGN LOADS

COLUMN DESIGN LOADS

LENGTH (OVER HANG TO SUSPEND FROM)*	LOAD 1 - UNIFORMLY DISTRIBUTED LOAD	LOAD 2 - END POINT LOAD	LOAD 1 - ECCENTRICALLY LOADED	LOAD 2 - CONCENTRICALLY LOADED
<b>L (mm)</b>	<b>F kN</b>	<b>F kN</b>	<b>F KN</b>	<b>F KN</b>
500mm	<i>0.66</i>	<i>0.31</i>	10.38	49.53
1000mm	<i>0.31</i>	<i>0.15</i>	7.16	47.00

\*Length of the overhang to suspend from rather than total length

**Notes to Column & Cantilever Loads data:**

- Yield Stress = 275N/mm<sup>2</sup>
- Modulus of elasticity: E = 210kN/mm<sup>2</sup>

**Cantilver:**

- All load data is for applied loads. The channel self-weight is already deducted.
- Design Loads - maximum loads limited by deflection:  $f = L/150$ . (Values in italics are limited by stress using safety coefficient =1.7)
- Load capacity of beam clamps and primary steel must be considered

**Column:**

- Design loads include safety coefficient = 1.7
- Loads are calculated for pin-pin connections and column effective length of 1.0
- Concentric loads - loads applied at the centroid of the column (typical for beams placed on top of columns)
- Eccentric Loads - for loads applied at the open face of the channel (typical of channel bracket connections)