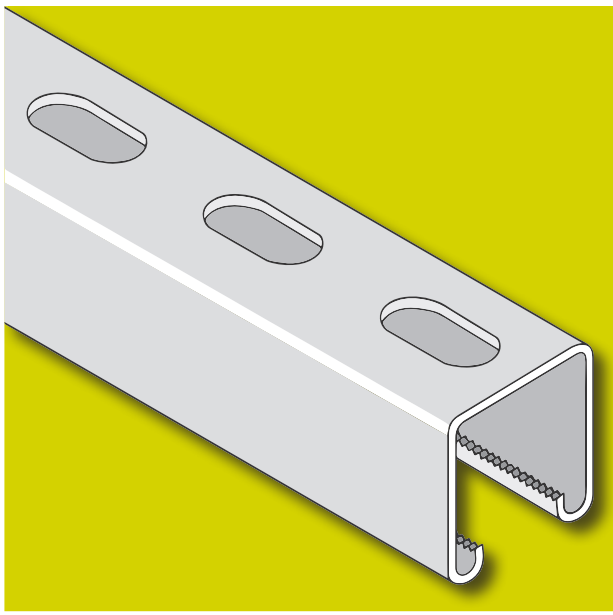
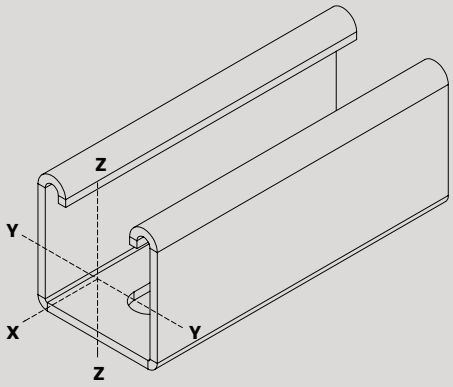
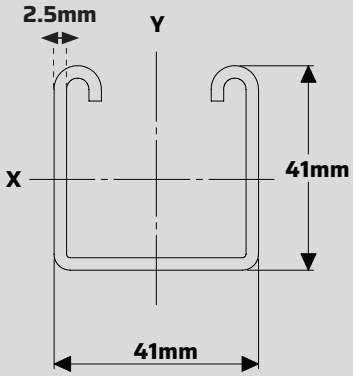
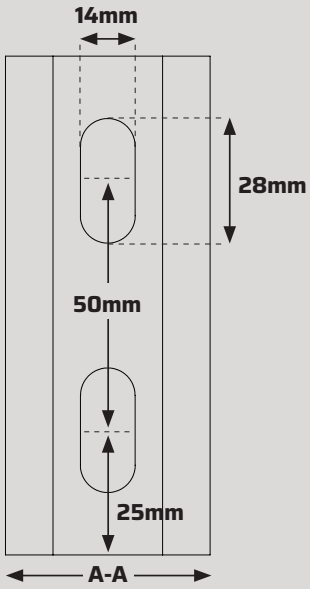


41 x 41 x 2.5 - Slotted Channel

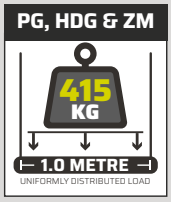


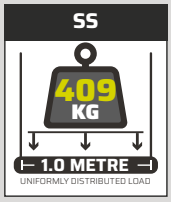


SECTION A-A



TECHNICAL DATA	PG, HDG & ZM	SS
Product Weight:	2.52 kg/m	2.52 kg/m
Minimum Yield Stress:	280N/mm²	240N/mm²
Uniformly distributed load for 1M (Fmax):	415 kg/m	409 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
3.06 cm²	6.24cm⁴	9.08cm⁴	2.59cm³	4.43cm³	1.43cm	1.72cm

FINISH DATA

PRE-GALVANISED CHANNEL (PG)	
Material Standard:	BS EN 10346 / BS 6946
Material Specification:	S280GD + Z275
Minimum Yield Stress:	280N/mm²
PG Minimum Zinc Coating Mass:	275g/m²
PG Typical Zinc Coating Thickness:	20µm

STAINLESS STEEL (SS)	
Material Standard:	Coil Hot Rolled to BS EN 10088-3:2023
Material Specification:	1.4404+1D / 316L (A4)
Minimum Yield Stress:	240N/mm²
Finish:	Self Colour

HOT-DIP GALVANISED CHANNELS (HDG)	
Material Standard:	BS EN 10346 / BS 6946
Material Specification:	S280GD + BS EN 1461
Minimum Yield Strength:	280N/mm²
Hot Dip Galvanising to:	BS EN 1461:2009
Minimum Average Coating Thickness:	55µm

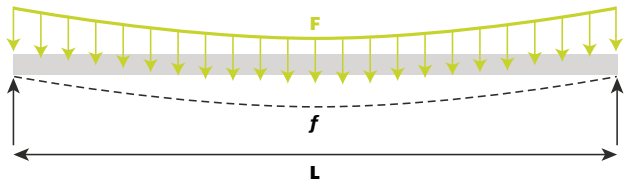
ZINC MAGNESIUM (ZM)	
Material Standard:	BS EN 10025-2:2019 / BS 6946:1988
Material Specification:	S280GD + ZM
Minimum Yield Strength:	280N/mm²
Hot Dip Galvanising to:	BS EN 10346:2015
Minimum Average Coating Thickness:	25µm

41 x 41 x 2.5 - Slotted Channel

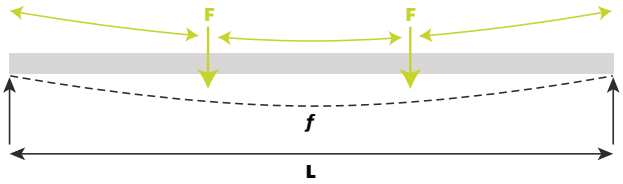
LOAD DATA

			ULTIMATE LOADS - LOAD 1		DESIGN LOADS			
CODE	FINISH	LENGTH (L)	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
	HDG / PG	mm	Fmax kN	f max mm	F kN	F kN	F kN	F kN
HOT-DIP GALVANISED								
2011 **11254**	HDG	3000	1.355	34.37	0.797	0.380	0.305	0.160
2011 **11255**	HDG	6000	0.679	142.5	0.399	0.190	0.153	0.080
PRE-GALVANISED								
2011 **01009**	PG	3000	1.355	34.37	0.797	0.380	0.305	0.160
2011 **01010**	PG	6000	0.679	142.5	0.399	0.190	0.153	0.080
PRE-CUT LENGTHS								
2015 **01160**	PG	250	16.093	0.32	*9.466*	*9.029*	*7.267*	*3.815*
2015 **01165**	PG	500	8.146	0.8	*4.792*	*2.285*	*1.839*	*0.965*
2015 **01170**	PG	750	5.430	1.82	*3.194*	*1.523*	*1.226*	*0.644*
2015 **01147**	PG	1000	4.068	3.38	*2.393*	*1.484*	*1.194*	*0.627*
2015 **01149**	PG	1200	3.362	4.97	1.978	0.943	0.758	0.398
2015 **01152**	PG	1500	2.676	7.81	1.574	0.751	0.604	0.317
2015 **01155**	PG	1700	2.378	10.45	1.399	0.667	0.604	0.281
2015 **01158**	PG	2000	2.075	15.1	1.221	0.582	0.468	0.246
ZINC MAGNESIUM								
2011 **17106**	ZM	3000	1.355	34.37	0.797	0.380	0.305	0.160
STAINLESS STEEL								
2011 **05979**	SS	3000	1.335	37.66	0.785	0.580	0.548	0.294
2011 **05980**	SS	6000	0.67	145.2	0.394	0.375	0.270	0.165

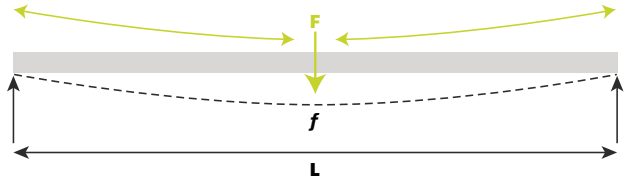
LOAD 1 Safe Uniformly Distributed Load



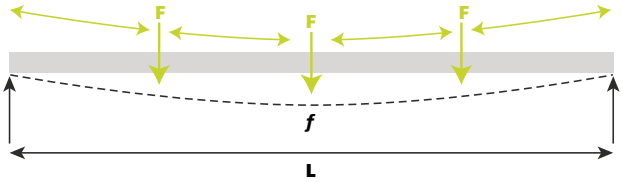
LOAD 3 Safe Two Point Load



LOAD 2 Safe Central Point Load



LOAD 4 Safe Three Point Load



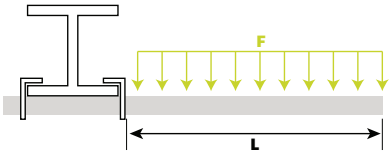
Notes to Beam Loads data:

- Yield Stress = 280N/mm²
- Modulus of elasticity: E = 210kN/mm²
- 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)

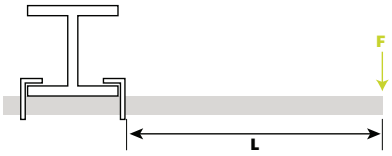
Cantilver & Column Load Data - 41 x 41 x 2.5 Slotted Channel

CANTILEVER LOADS

LOAD 1 Uniformly Distributed Load

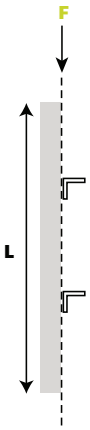


LOAD 2 End Point Load

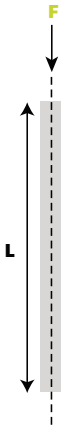


COLUMN LOADS

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**
L (mm)	**F kN**	**F kN**	**F KN**	**F KN**
500mm	*2.23*	*1.06*	8.32	33.00
1000mm	*1.06*	*0.52*	6.67	30.29

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

Notes to Column & Cantilever Loads data:

- Yield Stress = 275N/mm²
- Modulus of elasticity: E = 210kN/mm²

Cantilver:

- All load data is for applied loads. The channel self-weight is already deducted.
- Design Loads - maximum loads limited by deflection: *ƒ* = 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)