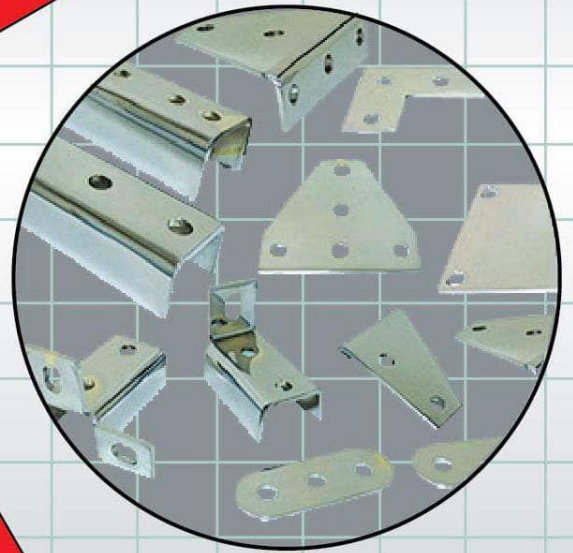




**FUTURE
TECHNOLOGY**

Engineered **Metal** Solutions



FTC Channel Support System

www.ftc-uae.com



**QUALITY &
RELIABILITY**

FTC is a leading manufacturer of all metal product used for the support of contractors and fabricators our customers have access to the most complete support systems including metal forming , cable trays slotted channels , pipe hunger's , all types of sheets processes, fasteners and others

**Tiqniah Al Mustaqbal Bldg.
Metal Construction Ind.**

PO Box: 64454 Sharjah, UAE
Tel: +971 6 5346576
Fax: +971 6 5346876
sales@ftc-uae.com

**Gulf Facilities Trading &
Contracting Co W.L.L**

PO Box: 24212 Doha – Qatar
Tel: +974 450 1152
Fax: +974 4607714
feroz@safid.com

ATC Saudi Arabia Ltd

PO Box: 15300 Riyadh 11444
Tel: +966 11 24 28 550
Fax: +966 11 24 28 685
abdelkhalek.a@atcsaudi.com

**Gulf Facilities General Trading
& Contracting Company**

PO Box: 37540 ,Kuwait
Tel: +965 25 75 7630
Fax: +965 25 75 7501
indy@gft-kw.com





tools

No Welding

No Drilling

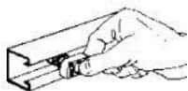
No special Tools

No wasting

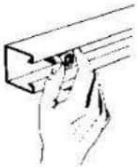
reusable



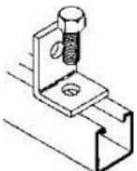
Insert the spring nut anywhere along the continuous slotted channel. The rounded nut ends permit easy insertion.



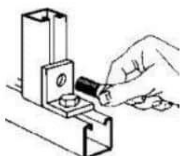
A 90° clockwise turn aligns the grooves in the nut with the inturned edges of channel. Fittings can be placed anywhere along the channel opening, permitting complete freedom of adjustment that need for drilling holes is eliminated.



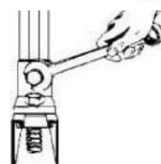
Insert the bolt through the fitting and into the spring nut.



Additional channel sections can now be bolted to the fitting already in place by following procedure described in steps 1–3.



Channel Nut Installation Guide.



Tightening with a wrench locks the serrated teeth of the nut into the inturned edges of the channel, to complete a strong, vise-like connection.

Channel

The FTC metal framing system comprises of single and combination channels, assembly brackets, channel nuts and fasteners. The FTC metal framing system conforms To BS 6946:1988, the British Standard Manufactured from steel complying with BSEN 10346:2009 pre galvanized, BS EN10025-2:2004 Mild steel hot dip galvanized after manufacture to BS EN 1461:2009 and BS EN 10088-2:2005 stainless steel Grade 316L

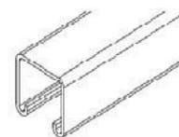
Finishes

PL = Plain Surface
PI = Pregalvanized 0.75 MIL
EG = Electro galvanizing 0.5 MIL
HD = Hot dip galvanizing 2.6 MIL
SS = Stainless steel
Al = Aluminum
AZ = AluZink Steel

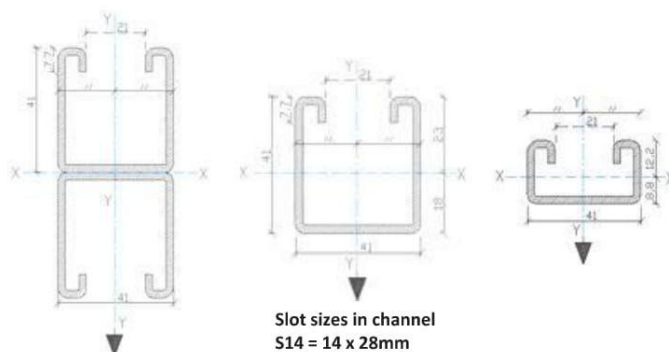
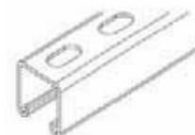
Lengths

Standard length 3000 mm
Custom length available in request .

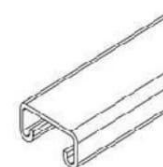
Part No.	Thick. mm.	Height mm.
FTC4125	2.5	41
FTC4120	2.0	41
FTC4115	1.5	41



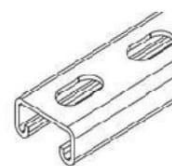
Part No.	Thick. mm.	Height mm.
FTC4225	2.5	41
FTC4220	2.0	41
FTC4415	1.5	41



Part No.	Thick. mm.	Height mm.
FTC2125	2.5	21
FTC2120	2.0	21
FTC2115	1.5	21



Part No.	Thick. mm.	Height mm.
FTC2225	2.5	21
FTC2220	2.0	21
FTC2215	1.5	21



Order Code

FTC4225 4 2 25 GI

Size

2 - 21 / 41 mm
4 - 41 / 41 mm
6 - 42/41 B2B
8 - 82/41 B2B

Patterns

1 - Non Perforated
2 - Perforated

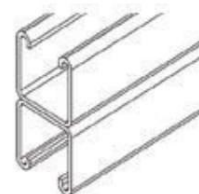
Material thickness

25 - 2.5 mm
20 - 2.0 mm
15 - 1.5 mm

Material

PL = Plain Surface
PI = Pregalvanized 0.75 MIL
EG = Electro galvanizing 0.5 MIL
HD = Hot dip galvanizing 2.6 MIL
SS = Stainless steel
Al = Aluminum
AZ = AluZink Steel

Part No.	Thick. mm.	Height mm.
FTC4225	2.5	82
FTC4220	2.0	82
FTC4215	1.5	82
FTC8125	2.5	82
FTC8120	2.0	82
FTC8115	1.5	82



Plain (PL)

Plain finish designation means that the channel retains the oiled surface applied to the raw steel during the rolling process. The fittings have the original oiled surface of the coil or strip steel material

Stainless steel (SS) AISI 304 , 316

stainless steel, also known as Inox steel or Inox is a steel alloy with a minimum of 10.5% Chromium content by mass.

Aluzink (AZ)

Aluzinc is cold rolled galvanized steel with metal coating composed of Aluminum (55%), Zinc (43,4%) and Slicium (1,6%). Aluzinc steel coatings out-perform galvanized coatings from 2 - 6 times. The protective mechanism for Aluzinc and hot-dip-galvanized steel are such that the hot-dip-galvanized coating initially protects better but the zinc coat will gradually corrode away more and more in the vicinity of the edge and the protective effect will be lost. Then the aluminum part of the Aluzinc coating will persist for a longer period of time, and the protection will thereby remain.

Pregalvanized Zinc (PG) ASTM A653

Pregalvanized steel is zinc coated hot dip process. Steel strip from a coil is fed through a continuous zinc coater which cleans, fluxes and coats the steel with molten zinc. After cooling, the steel is recoiled.

The pregalvanized zinc coating conforms to a G-90 thickness designation per ASTM A653. The zinc thickness is .75 MIL or .45 oz./sq. ft. of surface area. This coating is offered on channel and tubing and is a well-proven, time-tested performer or indoor and outdoor applications.

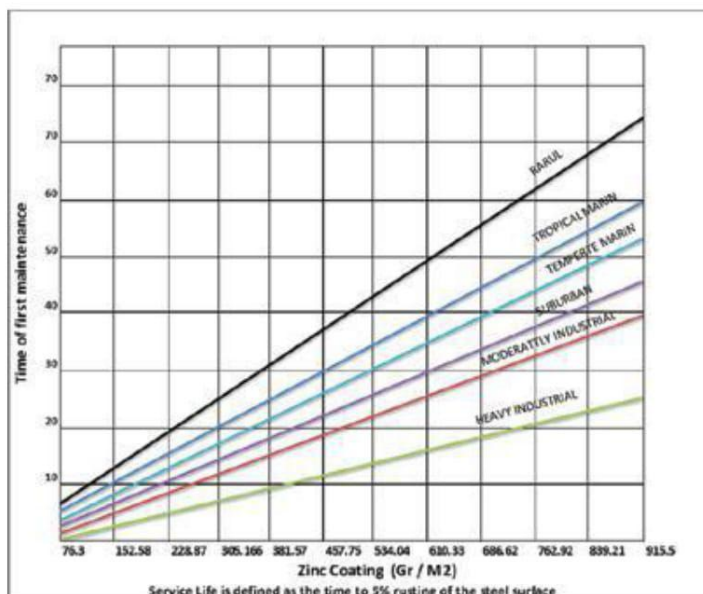
Electroplated Zinc (EG) ASTM B633, Type III SC1 or SC3

In the electroplating process, the part to be zinc coated is immersed in a solution of zinc ions. An electric current causes the zinc to be deposited on the part. SC1 (Mild) has a Zinc coating of 0.2 and is recommended for dry indoor use. SC1 is the standard finish thickness. SC3 (Severe) has a Zinc coating of 0.5 mill and is the standard finish thickness only on UL Listed raceway products.

Comparison of Zinc Finishes Zinc

Zinc	Thickness
Hot Dip Galvanized	2.6 MIL
pre-galvanized	0.75 MIL
Electro-Galvanized (SC3)	0.5 MIL

Life of Protection vs. Thickness of Zinc and Type of Atmosphere



Hot Dip Galvanized (HD) ASTM A123 OR A153

In hot dip galvanizing, the finished part is immersed in a bath of molten zinc. This method results in complete zinc coverage and a thicker coating than pregalvanized or plated zinc. The zinc coating is typically 2.6 MIL or 1.5 oz./sq. ft. of surface area. This is the coating of choice for applications where

Aluminum (AL)

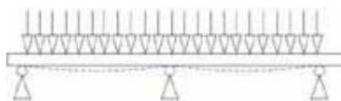
Aluminum 5052 , 6063

BEAMS

Beams are structural members loaded at right angles (perpendicular) to their length. Most beams are horizontal and subjected to gravity or vertical loads, e.g. a shelf support. However a vertical member can act as a beam under certain conditions, such as a curtain wall mullion subjected to wind loading. The bending moment developed in a beam is dependent on:

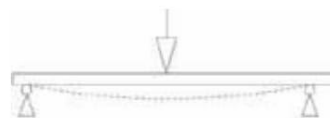
- (a) The amount of load applied,
- (b) The type of loading applied, and
- (c) The support conditions

SUPPORT CONDITIONS - CONTINUOUS BEAM



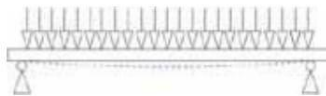
Any simple beam that is supported at one or more intermediate points is a continuous beam. A mezzanine joist that passes over three or more columns is an example of continuous beam.

DEFLECTION



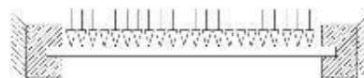
The stiffness of the beam's cross-sectional shape is measured by its "Moment Of Inertia" or "I". The larger a beam's "I", the stiffer it is and the less it will deflect. A beam's "I" can change for each major axis. The "I" of both major axes (I 1-1 and I 2-2) are provided.

BEAM LOADING - UNIFORM LOAD



A load spread evenly over a relatively long length of the beam is a uniform load. Point and uniform loads can be placed on a beam in any combination. A series of point loads can approximate a uniform loading. The load charts and tables are based on a uniform load unless identified otherwise

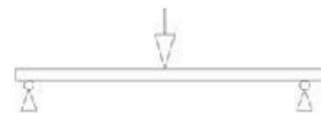
SUPPORT CONDITIONS - SIMPLE BEAM



A simple beam has supports that prevent movement left and right, or up and down but do not restrain the beam from rotating at the supports into a natural deflected curve. Most FTC Metal Framing connections produce simple beams. The load charts and tables are based on simple beams unless identified otherwise.

The stiffness of a beam's material is measured by its "Modulus of Elasticity" or "E". The larger a material's "E", the stiffer it is and the less it deflects. For example, steel is about three times stiffer than aluminum and as a result, deflects only one-third as much. Do not confuse stiffness with strength. Two materials may have identical strengths yet still have different "E's". A high-strength aluminum may be as strong as steel and still deflect three times as much.

BEAM LOADING - POINT LOAD



A load concentrated onto a very small length of the beam is a point load.

SUPPORT CONDITIONS - CANTILEVER BEAM



A cantilever beam is a fixed-end beam that is supported at one end only, while the other end is unsupported. beam brackets Are examples of cantilever beams.

BENDING MOMENT

Is it strong enough? This is the final consideration for any beam. A beam must not only hold up the anticipated loads, must also have sufficient additional capacity to safely hold unforeseen variations in applied loads and material strengths. This additional capacity is called a safety factor and is usually regulated by the various design codes and standards. A beam's strength is usually measured by an allowable bending moment or an allowable stress. The traditional Approach is the allowable stress method, where a beam is determined to have a maximum allowable stress (in pounds per square inch) which is not to be exceeded.

COLUMNS

Columns are structural members that are loaded parallel to their length. Most columns are vertical and are used to carry loads from a higher level to a lower level. However any member subjected to compression loads, such as a diagonal or prop brace, is a column.

A column fails by "buckling", which is a sudden loss of straightness and subsequent collapse. Allowable column load is dependent on:

- (a) the length of column,
- (b) the type of loading,
- (c) the support conditions, and
- (d) the column's cross-sectional shape and material.

COLUMN LOADING – ECCENTRIC LOADING

Any load which is not concentric is eccentric. The amount of eccentricity (in mm) has a major effect on the load-carrying capacity of any particular column. A load that is transmitted to a Unistrut Metal Framing column using a standard fitting bolted to the slot face is considered eccentric.

The load tables give allowable loads for both concentric (loaded at C.G.) and certain eccentric (loaded at slot face) loading. Allowable loads for other eccentric

Loading must be determined by a qualified design professional.

ROSS-SECTIONAL SHAPE

The cross-sectional shape of a column member determines the value of its "Radius of Gyration" or "r". In general, a member with a large "r" makes a better column than a member with a small "r". Each axis of a column has a different "r". Typically the axis with the smallest "r" determines the final design.

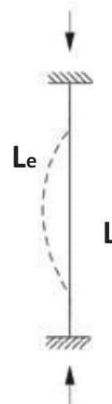
SUPPORT CONDITIONS

Based on the support conditions, an appropriate "K" value is selected. This "K" value, which mathematically describes the column end conditions, is used in the column design equations. The most common support condition combinations are as follows: $K=Le/L$

SUPPORT CONDITIONS - FIXED TOP – FIXED BOTTOM

$$K = 0.65$$

Both ends are restrained against rotation and lateral movement (translation).



SUPPORT CONDITIONS - PINNED TOP – PINNED BOTTOM

$$K = 1$$

Both ends are restrained against lateral movement (translation) but, are allowed to rotate.



SUPPORT CONDITIONS - FIXED / FREE TOP – FIXED BOTTOM

$$K = 1.2$$

The top is restrained against rotation but is allowed to move laterally. The bottom is restrained against rotation and lateral movement (translation).



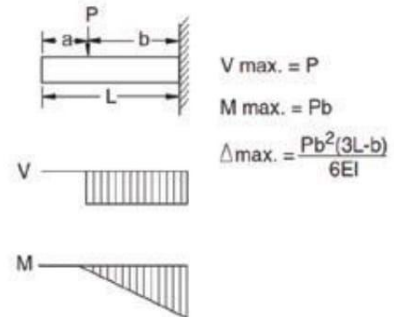
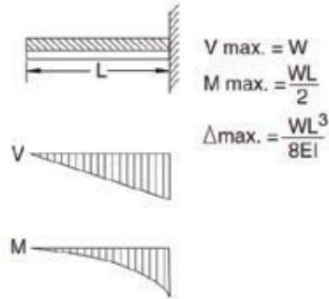
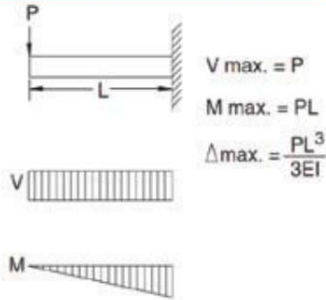
SUPPORT CONDITIONS - PINNED TOP – FIXED BOTTOM

$$K = 0.8$$

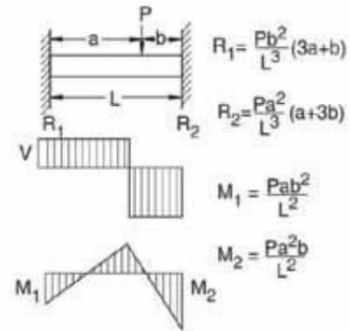
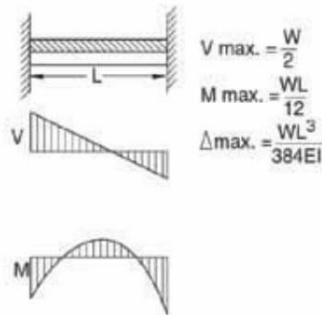
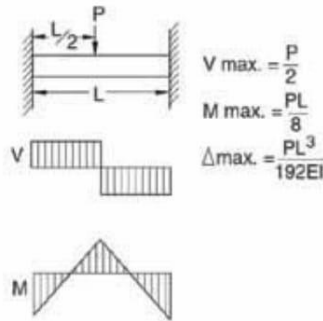
The top is restrained against lateral movement (translation) but is allowed to rotate. The bottom is restrained against rotation and lateral movement. This is a common support condition and is used to construct the allowable column load applied at the Slot Face tables.



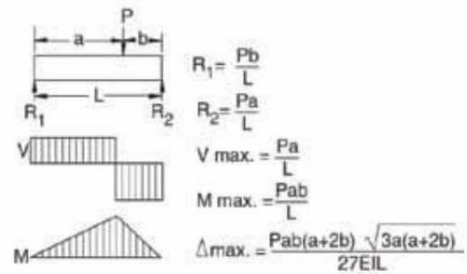
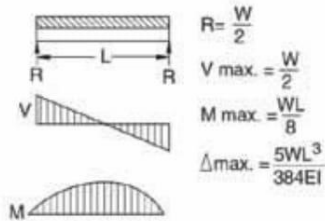
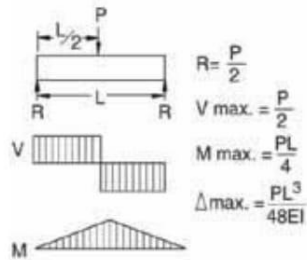
CANTILEVER BEAM



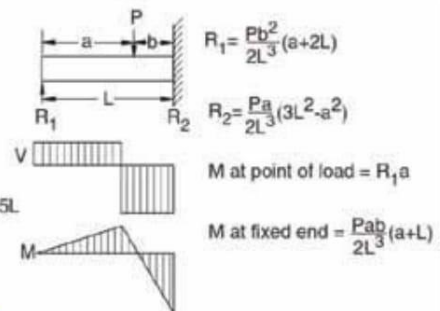
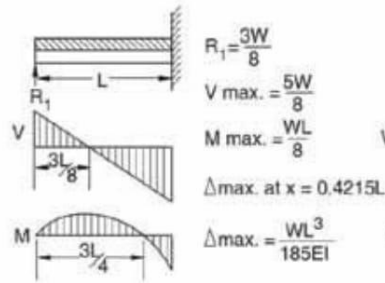
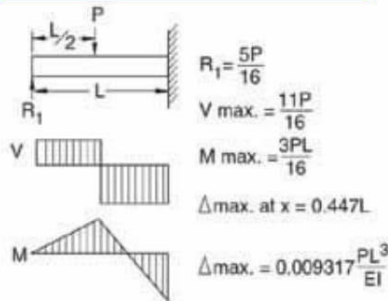
BEAM FIXED AT BOTH ENDS



SIMPLE BEAM



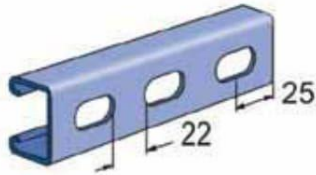
BEAM FIXED AT ONE END AND SUPPORTED AT THE OTHER



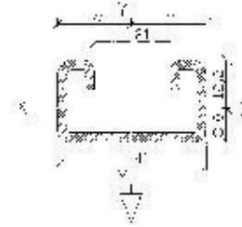
R – Reaction
 M – Moment
 P – Concentrated Load

W – Total Uniform Load
 V – Shear
 L – Length

Δ – Deflection
 E – Modulus of Elasticity
 I – Moment of Inertia

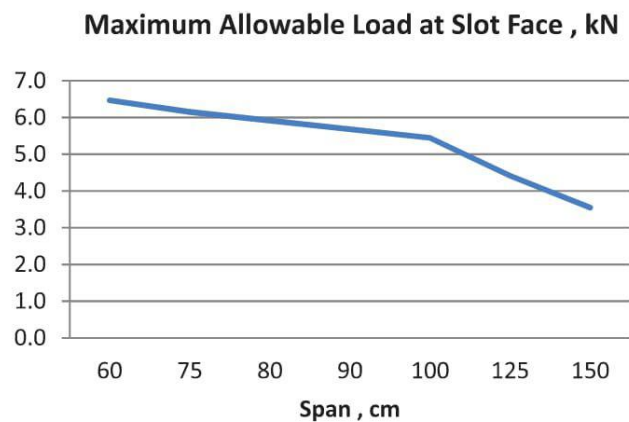
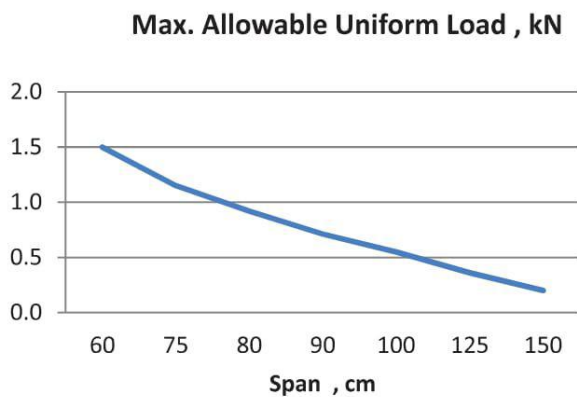
FTC2215HD

Dimension

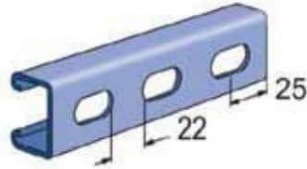
Width	41	mm
Height	21	mm
Thickness	1.5	mm
Slots width	28	mm
Slot height	12	mm


ELEMENTS OF SECTION

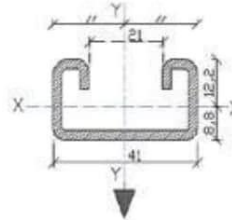
Area of Section	1.44	cm ²
Moment of Inertia (I _x)	0.75	cm ⁴
Moment of Inertia (I _y)	3.4	cm ⁴
Modulus of Elasticity (E)	21.5	kN/cm ²

Span cm	Max. Allowable Uniform	Deflection at Uniform load mm	Uniform Loading at Deflection			Maximum Allowable Load at Slot Face kN	Appropriate K value			
			Span/180	Span/240	Span / 360		0.65	0.8	1	1.2
			kN	kN	kN		kN	kN	kN	kN
60	1.50	1.60	3.13	2.34	1.56	6.47	19.69	18.24	13.05	10.85
75	1.15	2.50	1.92	1.44	0.96	6.15	18.43	16.35	9.75	8.12
80	0.92	4.20	0.97	0.73	0.49	5.92	17.55	15.12	7.94	6.64
90	0.71	5.30	0.67	0.50	0.33	5.68	16.56	13.76	6.88	5.75
100	0.55	6.90	0.44	0.33	0.22	5.44	15.72	12.48	5.71	4.77
125	0.36	10.20	0.25	0.18	0.12	4.42	11.88	8.28	3.54	2.98
150	0.20	15.30	0.11	0.08	0.05	3.55	8.24	5.48	2.32	1.93
175	-	-	-	-	-	-	-	-	-	-
200	-	-	-	-	-	-	-	-	-	-
250	-	-	-	-	-	-	-	-	-	-



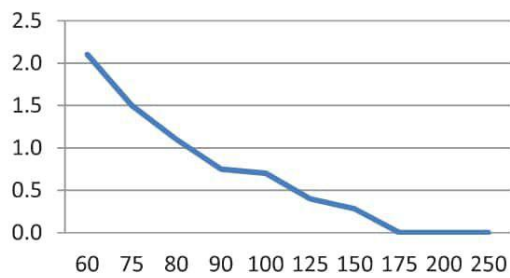
FTC2220HD

Dimension

Width	41	mm
Height	21	mm
Thickness	2.0	mm
Slots width	28	mm
Slot height	12	mm

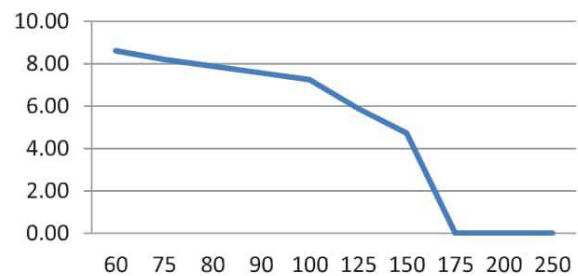

ELEMENTS OF SECTION

Area of Section	1.92	cm ²
Moment of Inertia (I _x)	0.91	cm ⁴
Moment of Inertia (I _y)	4.32	cm ⁴
Modulus of Elasticity (E)	21.5	kN/cm ²

Span cm	Max. Allowable Uniform Load	Deflection at Uniform load	Uniform Loading at Deflection			Maximum Allowable Load at Slot Face kN	Appropriate K value			
			Span/180	Span/240	Span / 360		0.65	0.8	1	1.2
			kN	kN	kN		kN	kN	kN	kN
60	2.10	2.30	3.04	2.28	1.52	8.61	26.21	24.28	17.36	14.44
75	1.50	3.20	1.95	1.46	0.98	8.19	24.52	21.76	12.98	10.81
80	1.10	4.10	1.19	0.89	0.60	7.88	23.35	20.12	10.56	8.83
90	0.75	5.10	0.74	0.55	0.37	7.56	22.04	18.31	9.15	7.65
100	0.70	6.40	0.61	0.46	0.30	7.25	20.93	16.61	7.61	6.35
125	0.40	9.80	0.28	0.21	0.14	5.88	15.81	11.02	4.71	3.97
150	0.28	13.90	0.17	0.13	0.08	4.73	10.96	7.30	3.09	2.57
175	-	-	-	-	-	-	-	-	-	-
200	-	-	-	-	-	-	-	-	-	-
250	-	-	-	-	-	-	-	-	-	-

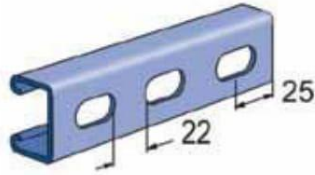
Max. Allowable Uniform Load


Span , cm

Maximum Allowable Load at Slot Face


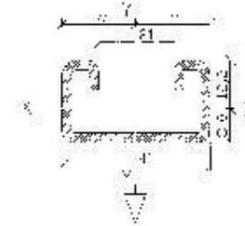
Span , cm

FTC2225HD



Dimension

Width	41	mm
Height	21	mm
Thickness	2.5	mm
Slots width	28	mm
Slot height	12	mm

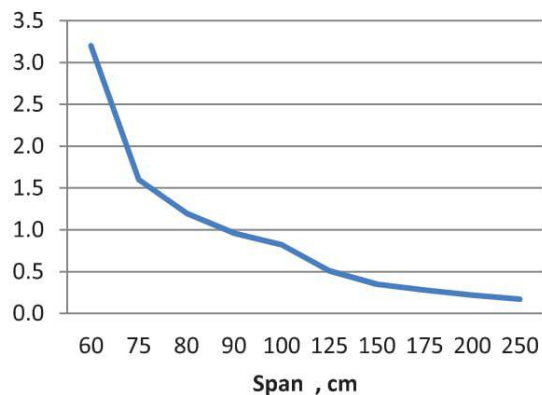


ELEMENTS OF SECTION

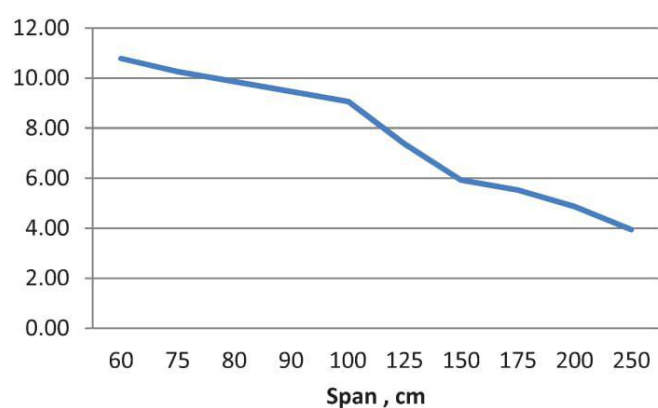
Area of Section	2.41	cm ²
Moment of Inertia (I _x)	1.05	cm ⁴
Moment of Inertia (I _y)	4.95	cm ⁴
Modulus of Elasticity (E)	21.5	kN/cm ²

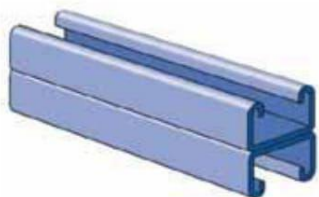
Span cm	Max. Allowable Uniform Deflection at Uniform load mm	Uniform Loading at Deflection				Maximum Allowable Load at Slot Face kN	Appropriate K value			
		Span/180	Span/240	Span / 360	0.65		0.8	1	1.2	
		kN	kN	kN	kN		kN	kN	kN	kN
60	3.20	2.20	4.85	3.64	2.42	10.78	32.82	30.40	21.74	18.09
75	1.60	3.35	1.99	1.49	1.00	10.26	30.71	27.26	16.25	13.54
80	1.20	4.15	1.29	0.96	0.64	9.86	29.25	25.20	13.23	11.06
90	0.96	5.10	0.94	0.71	0.47	9.47	27.61	22.93	11.46	9.58
100	0.82	6.20	0.73	0.55	0.37	9.07	26.21	20.80	9.52	7.95
125	0.51	9.85	0.36	0.27	0.18	7.36	19.80	13.80	5.90	4.97
150	0.35	14.90	0.20	0.15	0.10	5.92	13.73	9.14	3.86	3.22
175	0.28	19.50	0.14	0.10	0.07	5.52	12.72	8.13	3.00	2.61
200	0.22	24.80	0.10	0.07	0.05	4.87	10.01	5.74	2.19	1.70
250	0.17	31.20	0.08	0.06	0.04	3.95	5.95	3.95	1.46	1.18

Max. Allowable Uniform Load , kN

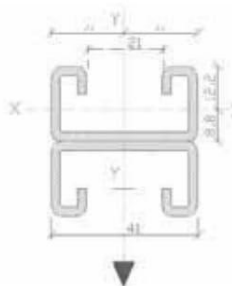


Maximum Allowable Load at Slot Face , kN



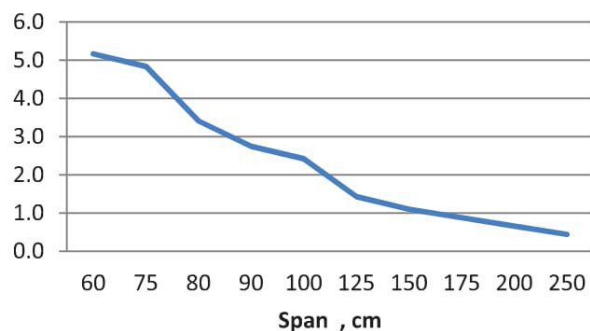
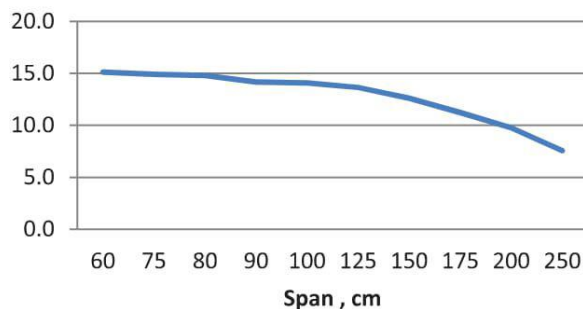
FTC6220HD

Dimension

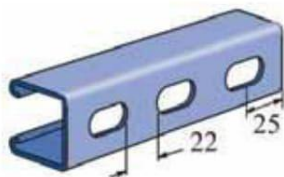
Width	41	mm
Height	42	mm
Thickness	2.0	mm
Slots width	28	mm
Slot height	12	mm


ELEMENTS OF SECTION

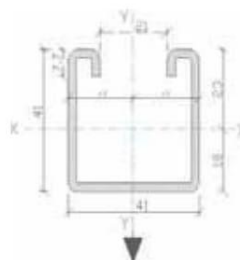
Area of Section	3.84	cm ²
Moment of Inertia (I _x)	4.1	cm ⁴
Moment of Inertia (I _y)	8.7	cm ⁴
Modulus of Elasticity (E)	21.5	kN/cm ²

Span cm	Max. Allowable Uniform Deflection at Uniform load mm	Uniform Loading at Deflection				Maximum Allowable Load at Slot Face kN	Appropriate K value			
		Span/180	Span/240	Span / 360	0.65		0.8	1	1.2	
		kN	kN	kN	kN		kN	kN	kN	kN
60	5.17	0.70	24.62	18.46	12.31	15.12	46.02	42.63	30.49	25.37
75	4.84	1.70	11.86	8.90	5.93	14.91	44.65	39.62	23.62	19.68
80	3.41	2.20	6.89	5.17	3.44	14.81	43.90	37.83	19.85	16.60
90	2.75	2.80	4.91	3.68	2.46	14.18	41.33	34.33	17.16	14.35
100	2.42	3.50	3.84	2.88	1.92	14.07	40.64	32.25	14.77	12.32
125	1.43	6.30	1.58	1.18	0.79	13.65	36.70	25.58	10.94	9.22
150	1.10	9.30	0.99	0.74	0.49	12.60	29.23	19.46	8.23	6.86
175	0.88	11.00	0.78	0.58	0.39	11.24	25.89	16.54	6.11	5.30
200	0.66	14.10	0.52	0.39	0.26	9.77	20.08	11.52	4.39	3.42
250	0.44	18.30	0.33	0.25	0.17	7.56	11.40	7.56	2.80	2.27

Max. Allowable Uniform Load , kN

Maximum Allowable Load at Slot Face , kN


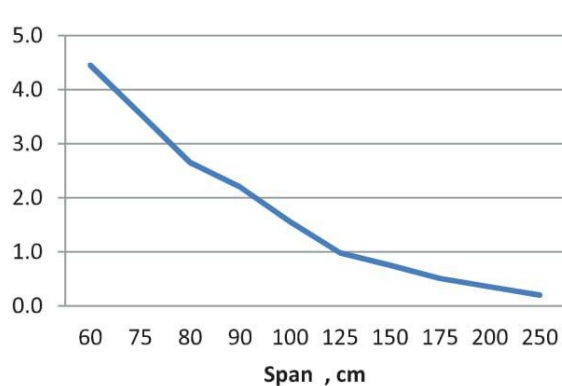
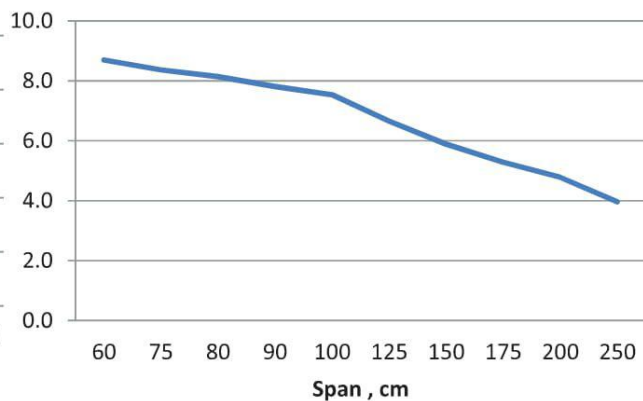
FTC4215HD

DIMENSION

Width	41	mm
Height	41	mm
Thickness	1.5	mm
Slots width	28	mm
Slot height	12	mm

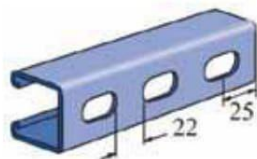

ELEMENTS OF SECTION

Area of Section	2.04	cm ²
Moment of Inertia (I _x)	3.85	cm ⁴
Moment of Inertia (I _y)	5.62	cm ⁴
Modulus of Elasticity (E)	21.5	kN/cm ²

Span cm	Max. Allowable Uniform Deflection at Uniform load mm	Uniform Loading at Deflection				Maximum Allowable Load at Slot Face kN	Appropriate K value			
		Span/180	Span/240	Span / 360	0.65		0.8	1	1.2	
		kN	kN	kN	kN		kN	kN	kN	kN
60	4.45	1.30	11.41	8.56	5.71	8.69	26.45	24.50	17.52	14.58
75	3.55	1.65	8.96	6.72	4.48	8.36	25.03	22.22	13.24	11.04
80	2.65	2.35	5.01	3.76	2.51	8.14	24.14	20.80	10.92	9.13
90	2.20	2.75	4.00	3.00	2.00	7.81	22.77	18.91	9.46	7.90
100	1.55	3.35	2.57	1.93	1.29	7.54	21.76	17.27	7.91	6.60
125	0.98	5.50	1.24	0.93	0.62	6.66	17.89	12.47	5.33	4.50
150	0.75	7.80	0.80	0.60	0.40	5.89	13.65	9.09	3.84	3.20
175	0.51	10.50	0.47	0.35	0.24	5.28	12.17	7.77	2.87	2.49
200	0.35	13.20	0.29	0.22	0.15	4.79	9.84	5.64	2.15	1.67
250	0.20	19.50	0.14	0.11	0.07	3.96	5.97	3.96	1.47	1.19

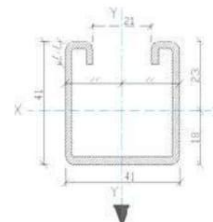
Max. Allowable Uniform Load , kN

Maximum Allowable Load at Slot Face , kN


FTC4220HD



DIMENSION

Width	41	mm
Height	41	mm
Thickness	2.0	mm
Slots width	28	mm
Slot height	12	mm

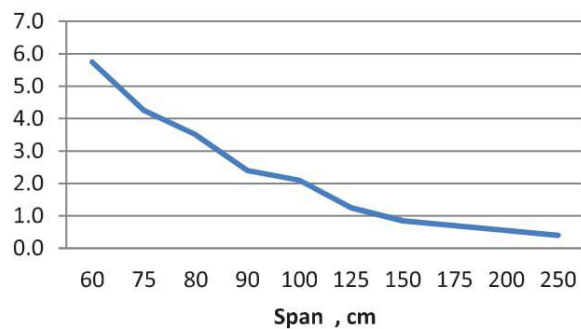


ELEMENTS OF SECTION

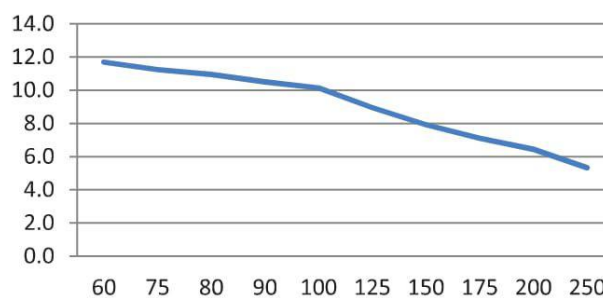
Area of Section	2.72	cm ²
Moment of Inertia (I _x)	4.65	cm ⁴
Moment of Inertia (I _y)	7.2	cm ⁴
Modulus of Elasticity (E)	21.5	kN/cm ²

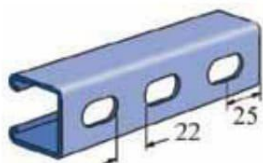
Span cm	Max. Allowable Uniform Deflection at Uniform load mm	Uniform Loading at Deflection				Maximum Allowable Load at Slot Face kN	Appropriate K value			
		Span/180	Span/240	Span / 360	0.65		0.8	1	1.2	
		kN	kN	kN	kN		kN	kN	kN	kN
60	5.75	1.30	14.74	11.06	7.37	11.69	35.59	32.97	23.58	19.61
75	4.25	1.65	10.73	8.05	5.37	11.25	33.68	29.89	17.82	14.85
80	3.50	2.45	6.35	4.76	3.17	10.95	32.48	27.98	14.69	12.28
90	2.40	2.70	4.44	3.33	2.22	10.51	30.64	25.45	12.72	10.63
100	2.10	3.40	3.43	2.57	1.72	10.14	29.28	23.24	10.64	8.88
125	1.25	5.20	1.67	1.25	0.83	8.95	24.07	16.78	7.18	6.05
150	0.85	7.60	0.93	0.70	0.47	7.92	18.37	12.23	5.17	4.31
175	0.70	10.20	0.67	0.50	0.33	7.10	16.37	10.46	3.86	3.35
200	0.55	14.20	0.43	0.32	0.22	6.44	13.24	7.59	2.90	2.25
250	0.40	22.00	0.25	0.19	0.13	5.33	8.04	5.33	1.97	1.60

Max. Allowable Uniform Load , kN

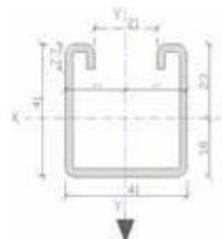


Maximum Allowable Load at Slot Face , kN



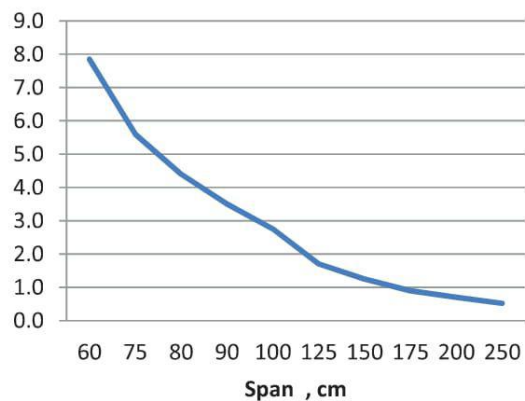
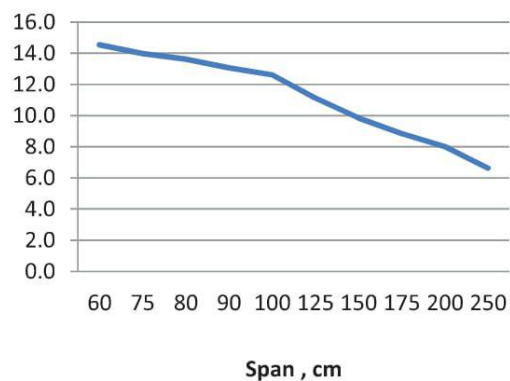
FTC4225HD

DIMENSION

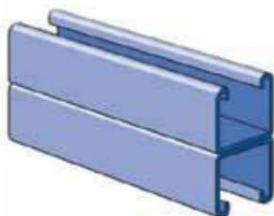
Width	41	mm
Height	41	mm
Thickness	2.5	mm
Slots width	28	mm
Slot height	12	mm


ELEMENTS OF SECTION

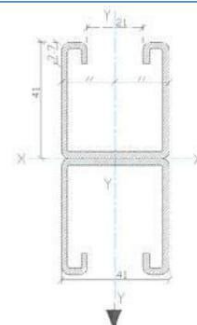
Area of Section	3.4	cm ²
Moment of Inertia (I _x)	5.8	cm ⁴
Moment of Inertia (I _y)	8.6	cm ⁴
Modulus of Elasticity (E)	21.5	kN/cm ²

Span cm	Max. Allowable Uniform Deflection at Uniform load mm	Uniform Loading at Deflection	Appropriate K value			
			Maximum Allowable Load at Slot Face kN			
			0.65	0.8	1	1.2
			kN	kN	kN	kN
60	7.85	1.18	22.18	16.63	11.09	14.54
75	5.60	1.80	12.96	9.72	6.48	13.98
80	4.40	1.75	11.17	8.38	5.59	13.62
90	3.50	2.25	7.78	5.83	3.89	13.06
100	2.75	2.85	5.36	4.02	2.68	12.60
125	1.70	3.45	3.42	2.57	1.71	11.13
150	1.25	5.45	1.91	1.43	0.96	9.84
175	0.90	7.54	1.16	0.87	0.58	8.83
200	0.70	13.85	0.56	0.42	0.28	8.00
250	0.52	23.50	0.31	0.23	0.15	6.62

Max. Allowable Uniform Load , kN

Maximum Allowable Load at Slot Face , kN


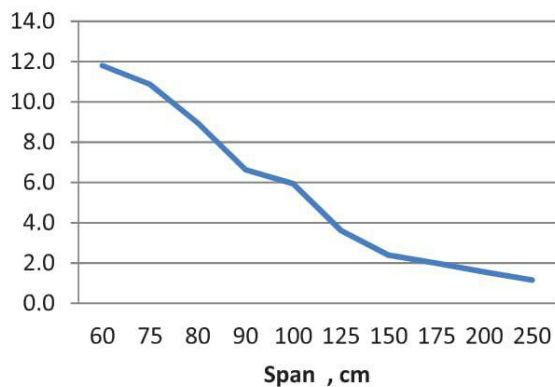
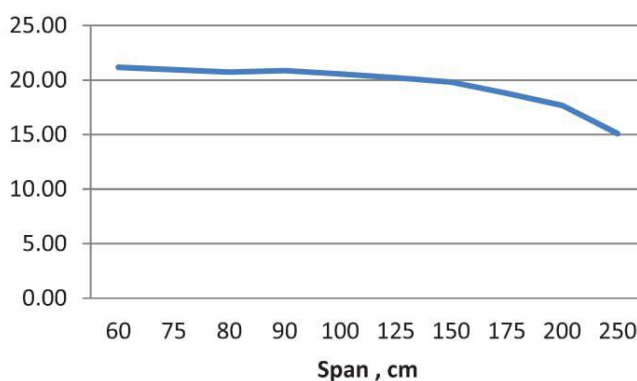
FTC4220HD

DIMENSION

Width	41	mm
Height	82	mm
Thickness	2.0	mm
Slots width	28	mm
Slot height	12	mm

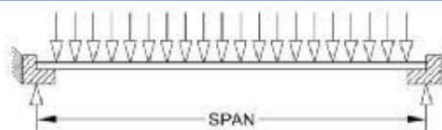

ELEMENTS OF SECTION

Area of Section	5.44	cm ²
Moment of Inertia (I _x)	27.2	cm ⁴
Moment of Inertia (I _y)	13.6	cm ⁴
Modulus of Elasticity (E)	21.5	kN/cm ²

Span cm	Max. Allowable Uniform	Deflection at Uniform load mm	Uniform Loading at Deflection			Maximum Allowable Load at Slot Face kN	Appropriate K value			
			Span/180	Span/240	Span / 360		0.65	0.8	1	1.2
			kN	kN	kN		kN	kN	kN	kN
60	11.80	1.30	30.26	22.70	15.13	21.16	64.42	59.68	42.67	35.50
75	10.87	1.65	27.45	20.58	13.72	20.94	62.71	55.65	33.18	27.65
80	8.95	2.45	16.23	12.17	8.12	20.72	61.44	52.94	27.79	23.24
90	6.62	2.70	12.27	9.20	6.13	20.87	60.84	50.54	25.27	21.12
100	5.93	3.40	9.70	7.27	4.85	20.57	59.42	47.15	21.59	18.02
125	3.61	5.20	4.82	3.62	2.41	20.20	54.32	37.86	16.19	13.65
150	2.39	7.60	2.62	1.96	1.31	19.83	46.00	30.62	12.95	10.79
175	1.99	10.20	1.90	1.42	0.95	18.80	43.31	27.67	10.23	8.87
200	1.55	14.20	1.22	0.91	0.61	17.69	36.37	20.86	7.96	6.19
250	1.16	22.00	0.73	0.55	0.36	15.10	22.77	15.10	5.59	4.53

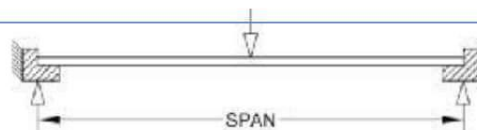
Max. Allowable Uniform Load , kN

Maximum Allowable Load at Slot Face , kN


UNIFORM LOAD



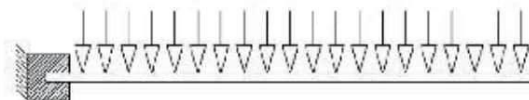
CHANNEL			SPAN , CM									
			60	75	80	90	100	125	150	175	200	250
FTC2215	Max. Load	kN	1.50	1.15	0.92	0.71	0.55	0.36	0.20	-	-	-
	Max. Defl.	mm	1.60	2.50	4.20	5.30	6.90	10.20	15.30	-	-	-
FTC2220	Max. Load	kN	2.10	1.50	1.10	0.75	0.70	0.40	0.28	-	-	-
	Max. Defl.	mm	2.30	3.20	4.10	5.10	6.40	9.80	13.90	-	-	-
FTC2225	Max. Load	kN	3.20	1.60	1.20	0.96	0.82	0.51	0.35	0.28	0.22	0.17
	Max. Defl.	mm	2.20	3.35	4.15	5.10	6.20	9.85	14.90	19.50	24.80	31.20
FTC6220	Max. Load	kN	5.17	4.84	2.20	2.75	2.42	1.43	1.10	0.88	0.66	0.44
	Max. Defl.	mm	0.70	1.70	2.20	2.80	3.50	6.30	9.30	11.00	14.10	18.30
FTC4115	Max. Load	kN	4.45	3.55	2.65	2.20	1.55	0.98	0.75	0.51	0.35	0.20
	Max. Defl.	mm	1.30	1.65	2.35	2.75	3.35	5.50	7.80	10.50	13.20	19.50
FTC4120	Max. Load	kN	5.75	4.25	3.50	2.40	2.10	1.25	0.85	0.70	0.55	0.40
	Max. Defl.	mm	1.30	1.65	2.45	2.70	3.40	5.20	7.60	10.20	14.20	22.00
FTC4125	Max. Load	kN	7.85	5.60	4.40	3.50	2.75	1.70	1.25	0.90	0.70	0.52
	Max. Defl.	mm	1.18	1.80	1.75	2.25	2.85	3.45	5.45	7.54	13.85	23.50
FTC8220	Max. Load	kN	11.80	10.87	8.93	6.62	5.93	3.61	2.39	1.99	1.55	1.16
	Max. Defl.	mm	1.30	1.65	2.45	2.70	3.40	5.20	7.60	10.20	14.20	22.00

CONCENTRATED LOAD AT CENTER



CHANNEL			SPAN , CM									
			60	75	80	90	100	125	150	175	200	250
FTC2215	Max. Load	kN	0.75	0.58	0.46	0.36	0.28	0.18	0.10	-	-	-
	Max. Defl.	mm	1.28	2.00	3.36	4.24	5.52	8.16	12.24	-	-	-
FTC2220	Max. Load	kN	1.05	0.75	0.55	0.38	0.35	0.20	0.14	-	-	-
	Max. Defl.	mm	1.84	2.56	3.28	4.08	5.12	7.84	11.12	-	-	-
FTC2225	Max. Load	kN	1.60	0.80	0.60	0.48	0.41	0.26	0.18	0.14	0.11	0.09
	Max. Defl.	mm	1.76	2.68	3.32	4.08	4.96	7.88	11.92	15.60	19.84	24.96
FTC6220	Max. Load	kN	2.59	2.42	1.10	1.38	1.21	0.72	0.55	0.44	0.33	0.22
	Max. Defl.	mm	0.56	1.36	1.76	2.24	2.80	5.04	7.44	8.80	11.28	14.64
FTC4115	Max. Load	kN	2.23	1.78	1.33	1.10	0.78	0.49	0.38	0.26	0.18	0.10
	Max. Defl.	mm	1.04	1.32	1.88	2.20	2.68	4.40	6.24	8.40	10.56	15.60
FTC4120	Max. Load	kN	2.88	2.13	1.75	1.20	1.05	0.63	0.43	0.35	0.28	0.20
	Max. Defl.	mm	1.04	1.32	1.96	2.16	2.72	4.16	6.08	8.16	11.36	17.60
FTC4125	Max. Load	kN	3.93	2.80	2.20	1.75	1.38	0.85	0.63	0.45	0.35	0.26
	Max. Defl.	mm	0.94	1.44	1.40	1.80	2.28	2.76	4.36	6.03	11.08	18.80
FTC8220	Max. Load	kN	5.90	5.44	4.47	3.31	2.97	1.81	1.20	1.00	0.78	0.58
	Max. Defl.	mm	1.04	1.32	1.96	2.16	2.72	4.16	6.08	8.16	11.36	17.60

CANTILEVER UNIFORM LOAD



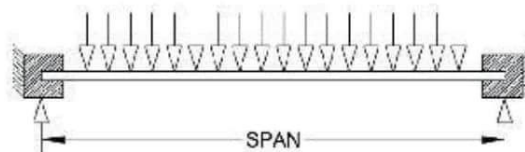
CHANNEL			SPAN , CM									
			60	75	80	90	100	125	150	175	200	250
FTC2215	Max. Load	kN	0.38	0.29	0.23	0.18	0.14	0.09	0.05	-	-	-
	Max. Defl.	mm	3.84	6.00	10.08	12.72	16.56	24.48	36.72	-	-	-
FTC2220	Max. Load	kN	0.53	0.38	0.28	0.19	0.18	0.10	0.07	-	-	-
	Max. Defl.	mm	5.52	7.68	9.84	12.24	15.36	23.52	33.36	-	-	-
FTC2225	Max. Load	kN	0.80	0.40	0.30	0.24	0.21	0.13	0.09	0.07	0.06	0.04
	Max. Defl.	mm	5.28	8.04	9.96	12.24	14.88	23.64	35.76	46.80	59.52	74.88
FTC6220	Max. Load	kN	1.29	1.21	0.55	0.69	0.61	0.36	0.28	0.22	0.17	0.11
	Max. Defl.	mm	1.68	4.08	5.28	6.72	8.40	15.12	22.32	26.40	33.84	43.92
FTC4115	Max. Load	kN	1.11	0.89	0.66	0.55	0.39	0.25	0.19	0.13	0.09	0.05
	Max. Defl.	mm	3.12	3.96	5.64	6.60	8.04	13.20	18.72	25.20	31.68	46.80
FTC4120	Max. Load	kN	1.44	1.06	0.88	0.60	0.53	0.31	0.21	0.18	0.14	0.10
	Max. Defl.	mm	3.12	3.96	5.88	6.48	8.16	12.48	18.24	24.48	34.08	52.80
FTC4125	Max. Load	kN	1.96	1.40	1.10	0.88	0.69	0.43	0.31	0.23	0.18	0.13
	Max. Defl.	mm	2.83	4.32	4.20	5.40	6.84	8.28	13.08	18.10	33.24	56.40
FTC8220	Max. Load	kN	2.95	2.72	2.23	1.66	1.48	0.90	0.60	0.50	0.39	0.29
	Max. Defl.	mm	3.12	3.96	5.88	6.48	8.16	12.48	18.24	24.48	34.08	52.80

CANTILEVER CONCENTRATED LOAD AT END



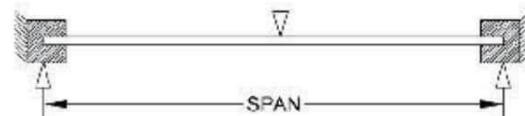
CHANNEL			SPAN , CM									
			60	75	80	90	100	125	150	175	200	250
FTC2215	Max. Load	kN	0.18	0.14	0.11	0.09	0.07	0.04	0.02	-	-	-
	Max. Defl.	mm	5.12	8.00	13.44	16.96	22.08	32.64	48.96	-	-	-
FTC2220	Max. Load	kN	0.25	0.18	0.13	0.09	0.08	0.05	0.03	-	-	-
	Max. Defl.	mm	7.36	10.24	13.12	16.32	20.48	31.36	44.48	-	-	-
FTC2225	Max. Load	kN	0.38	0.19	0.14	0.12	0.10	0.06	0.04	0.03	0.03	0.02
	Max. Defl.	mm	7.04	10.72	13.28	16.32	19.84	31.52	47.68	62.40	79.36	99.84
FTC6220	Max. Load	kN	0.62	0.58	0.26	0.33	0.29	0.17	0.13	0.11	0.08	0.05
	Max. Defl.	mm	2.24	5.44	7.04	8.96	11.20	20.16	29.76	35.20	45.12	58.56
FTC4115	Max. Load	kN	0.53	0.43	0.32	0.26	0.19	0.12	0.09	0.06	0.04	0.02
	Max. Defl.	mm	4.16	5.28	7.52	8.80	10.72	17.60	24.96	33.60	42.24	62.40
FTC4120	Max. Load	kN	0.69	0.51	0.42	0.29	0.25	0.15	0.10	0.08	0.07	0.05
	Max. Defl.	mm	4.16	5.28	7.84	8.64	10.88	16.64	24.32	32.64	45.44	70.40
FTC4125	Max. Load	kN	0.94	0.67	0.53	0.42	0.33	0.20	0.15	0.11	0.08	0.06
	Max. Defl.	mm	3.78	5.76	5.60	7.20	9.12	11.04	17.44	24.13	44.32	75.20
FTC8220	Max. Load	kN	1.42	1.30	1.07	0.79	0.71	0.43	0.29	0.24	0.19	0.14
	Max. Defl.	mm	4.16	5.28	7.84	8.64	10.88	16.64	24.32	32.64	45.44	70.40

FIXED AT BOTH ENDS UNIFORM LOAD



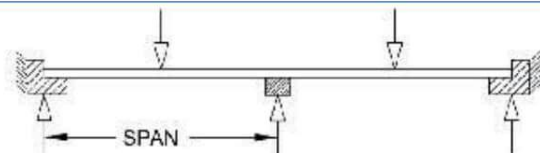
CHANNEL			SPAN , CM									
			60	75	80	90	100	125	150	175	200	250
FTC2215	Max. Load	kN	2.25	1.73	1.38	1.07	0.83	0.54	0.30	-	-	-
	Max. Defl.	mm	0.48	0.75	1.26	1.59	2.07	3.06	4.59	-	-	-
FTC2220	Max. Load	kN	3.15	2.25	1.65	1.13	1.05	0.60	0.42	-	-	-
	Max. Defl.	mm	0.69	0.96	1.23	1.53	1.92	2.94	4.17	-	-	-
FTC2225	Max. Load	kN	4.80	2.40	1.80	1.44	1.23	0.77	0.53	0.42	0.33	0.26
	Max. Defl.	mm	0.66	1.01	1.25	1.53	1.86	2.96	4.47	5.85	7.44	9.36
FTC6220	Max. Load	kN	7.76	7.26	3.30	4.13	3.63	2.15	1.65	1.32	0.99	0.66
	Max. Defl.	mm	0.21	0.51	0.66	0.84	1.05	1.89	2.79	3.30	4.23	5.49
FTC4115	Max. Load	kN	6.68	5.33	3.98	3.30	2.33	1.47	1.13	0.77	0.53	0.30
	Max. Defl.	mm	0.39	0.50	0.71	0.83	1.01	1.65	2.34	3.15	3.96	5.85
FTC4120	Max. Load	kN	8.63	6.38	5.25	3.60	3.15	1.88	1.28	1.05	0.83	0.60
	Max. Defl.	mm	0.39	0.50	0.74	0.81	1.02	1.56	2.28	3.06	4.26	6.60
FTC4125	Max. Load	kN	11.78	8.40	6.60	5.25	4.13	2.55	1.88	1.35	1.05	0.78
	Max. Defl.	mm	0.35	0.54	0.53	0.68	0.86	1.04	1.64	2.26	4.16	7.05
FTC8220	Max. Load	kN	17.70	16.31	13.40	9.93	8.90	5.42	3.59	2.99	2.33	1.74
	Max. Defl.	mm	0.39	0.50	0.74	0.81	1.02	1.56	2.28	3.06	4.26	6.60

FIXED AT BOTH ENDS CONCENTRETED LOAD AT CENTER



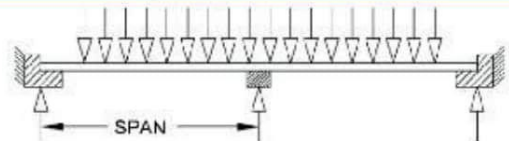
CHANNEL			SPAN , CM									
			60	75	80	90	100	125	150	175	200	250
FTC2215	Max. Load	kN	1.50	1.15	0.92	0.71	0.55	0.36	0.20	-	-	-
	Max. Defl.	mm	0.64	1.00	1.68	2.12	2.76	4.08	6.12	-	-	-
FTC2220	Max. Load	kN	2.10	1.50	1.10	0.75	0.70	0.40	0.28	-	-	-
	Max. Defl.	mm	0.92	1.28	1.64	2.04	2.56	3.92	5.56	-	-	-
FTC2225	Max. Load	kN	3.20	1.60	1.20	0.96	0.82	0.51	0.35	-	-	-
	Max. Defl.	mm	0.88	1.34	1.66	2.04	2.48	3.94	5.96	7.80	9.92	12.48
FTC6220	Max. Load	kN	5.17	4.84	2.20	2.75	2.42	1.43	1.10	0.88	0.66	0.44
	Max. Defl.	mm	0.28	0.68	0.88	1.12	1.40	2.52	3.72	4.40	5.64	7.32
FTC4115	Max. Load	kN	4.45	3.55	2.65	2.20	1.55	0.98	0.75	0.51	0.35	0.20
	Max. Defl.	mm	0.52	0.66	0.94	1.10	1.34	2.20	3.12	4.20	5.28	7.80
FTC4120	Max. Load	kN	5.75	4.25	3.50	2.40	2.10	1.25	0.85	0.70	0.55	0.40
	Max. Defl.	mm	0.52	0.66	0.98	1.08	1.36	2.08	3.04	4.08	5.68	8.80
FTC4125	Max. Load	kN	7.85	5.60	4.40	3.50	2.75	1.70	1.25	0.90	0.70	0.52
	Max. Defl.	mm	0.47	0.72	0.70	0.90	1.14	1.38	2.18	3.02	5.54	9.40
FTC8220	Max. Load	kN	11.80	10.87	8.93	6.62	5.93	3.61	2.39	1.99	1.55	1.16
	Max. Defl.	mm	0.52	0.66	0.98	1.08	1.36	2.08	3.04	4.08	5.68	8.80

TWO EQUAL SPANS CONCENTRATED LOAD AT CENTERS



CHANNEL			SPAN , CM									
			60	75	80	90	100	125	150	175	200	250
FTC2215	Max. Load	kN	0.93	0.71	0.57	0.44	0.34	0.22	0.12	-	-	-
	Max. Defl.	mm	1.14	1.78	2.98	3.76	4.90	7.24	10.86	-	-	-
FTC2220	Max. Load	kN	1.30	0.93	0.68	0.47	0.43	0.25	0.17	-	-	-
	Max. Defl.	mm	1.63	2.27	2.91	3.62	4.54	6.96	9.87	-	-	-
FTC2225	Max. Load	kN	1.98	0.99	0.74	0.60	0.51	0.32	0.22	0.17	0.14	0.11
	Max. Defl.	mm	1.56	2.38	2.95	3.62	4.40	6.99	10.58	13.85	17.61	22.15
FTC6220	Max. Load	kN	3.21	3.00	1.36	1.71	1.50	0.89	0.68	0.55	0.41	0.27
	Max. Defl.	mm	0.50	1.21	1.56	1.99	2.49	4.47	6.60	7.81	10.01	12.99
FTC4115	Max. Load	kN	2.76	2.20	1.64	1.36	0.96	0.61	0.47	0.32	0.22	0.12
	Max. Defl.	mm	0.92	1.17	1.67	1.95	2.38	3.91	5.54	7.46	9.37	13.85
FTC4120	Max. Load	kN	3.57	2.64	2.17	1.49	1.30	0.78	0.53	0.43	0.34	0.25
	Max. Defl.	mm	0.92	1.17	1.74	1.92	2.41	3.69	5.40	7.24	10.08	15.62
FTC4125	Max. Load	kN	4.87	3.47	2.73	2.17	1.71	1.05	0.78	0.56	0.43	0.32
	Max. Defl.	mm	0.84	1.28	1.24	1.60	2.02	2.45	3.87	5.35	9.83	16.69
FTC8220	Max. Load	kN	7.32	6.74	5.54	4.10	3.68	2.24	1.48	1.23	0.96	0.72
	Max. Defl.	mm	0.92	1.17	1.74	1.92	2.41	3.69	5.40	7.24	10.08	15.62

CONCENTRATED LOAD AT CENTER



CHANNEL			SPAN , CM									
			60	75	80	90	100	125	150	175	200	250
FTC2215	Max. Load	kN	1.50	1.15	0.92	0.71	0.55	0.36	0.20	-	-	-
	Max. Defl.	mm	1.76	2.75	4.62	5.83	7.59	11.22	16.83	-	-	-
FTC2220	Max. Load	kN	2.10	1.50	1.10	0.75	0.70	0.40	0.28	-	-	-
	Max. Defl.	mm	2.53	3.52	4.51	5.61	7.04	10.78	15.29	-	-	-
FTC2225	Max. Load	kN	3.20	1.60	1.20	0.96	0.82	0.51	0.35	0.28	0.22	0.17
	Max. Defl.	mm	2.42	3.69	4.57	5.61	6.82	10.84	16.39	21.45	27.28	34.32
FTC6220	Max. Load	kN	5.17	4.84	2.20	2.75	2.42	1.43	1.10	0.88	0.66	0.44
	Max. Defl.	mm	0.77	1.87	2.42	3.08	3.85	6.93	10.23	12.10	15.51	20.13
FTC4115	Max. Load	kN	4.45	3.55	2.65	2.20	1.55	0.98	0.75	0.51	0.35	0.20
	Max. Defl.	mm	1.43	1.82	2.59	3.03	3.69	6.05	8.58	11.55	14.52	21.45
FTC4120	Max. Load	kN	5.75	4.25	3.50	2.40	2.10	1.25	0.85	0.70	0.55	0.40
	Max. Defl.	mm	1.43	1.82	2.70	2.97	3.74	5.72	8.36	11.22	15.62	24.20
FTC4125	Max. Load	kN	7.85	5.60	4.40	3.50	2.75	1.70	1.25	0.90	0.70	0.52
	Max. Defl.	mm	1.30	1.98	1.93	2.48	3.14	3.80	6.00	8.29	15.24	25.85
FTC8220	Max. Load	kN	11.80	10.87	8.93	6.62	5.93	3.61	2.39	1.99	1.55	1.16
	Max. Defl.	mm	1.43	1.82	2.70	2.97	3.74	5.72	8.36	11.22	15.62	24.20