

## OV Truss OV40 Triangular



The OV range represents an innovative engineering solution to a common size of truss for the entertainment, event and presentation industry.

Designed to the latest Eurocodes, combines high comparative load capacities, low self-weight, and comes at a competitive price. All this whilst analysing the most common slinging / support methods on the truss has determined an 'engineered' product that can utilise the most modern manufacturing techniques.

The OV range is a series of square and triangular truss systems using conical connectors for a quick fixing method. Brace patterns are specifically designed to withstand the loads and forces implied by all common slinging and support methods. The extrusions used in the construction of the trusses are bespoke to Total Solutions Group and have been rigorously designed to enhance the structural effectiveness of the trusses and also to speed up manufacturing.

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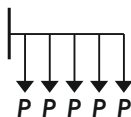
### Load Tables - Apex Up

Span (metres)	3	6	9	12	15	18
<b>UDL kg</b>	1640	1030	660	470	350	260
<b>DEFL mm</b>	3	17	37	62	90	117
<b>CPL kg</b>	1020	500	320	220	160	120
<b>DEFL mm</b>	3	13	28	48	69	89
<b>TPL kg</b>	1080	720	460	330	240	180
<b>DEFL mm</b>	3	16	35	59	85	109
<b>QPL kg</b>	1080	760	490	340	250	190
<b>DEFL mm</b>	3	16	34	58	84	108

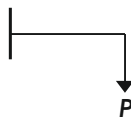
### Cantilever - Apex Up

Span (metres)		3
<b>Cantilever Span</b>	kg	480
<b>UDL</b>	mm	10.2
<b>EPL</b>	kg	240
<b>DEFL</b>	mm	12
<b>CPL</b>	kg	470
<b>DEFL</b>	mm	8.2

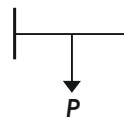
**Uniform Load  
(UDL)**



**Point Load  
(Edge)**



**Point Load  
(Central)**



### Loaded at bottom braces

Span (metres)	3	6	9	12	15	18
<b>Point load at each bottom brace</b>	270	85	35	19	11	7
<b>DEFL mm</b>	3	17	37	62	90	117
<b>Total load at bottom braces</b>	1620	1020	630	560	330	252
<b>DEFL mm</b>	3	17	37	62	90	117



# OV Truss OV40 Triangular



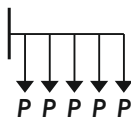
## Load Tables - Apex Down

Span (metres)	3	6	9	12	15	18
<b>UDL kg</b>	1640	1030	660	470	350	260
<b>DEFL mm</b>	3	17	37	62	90	117
<b>CPL kg</b>	1020	500	320	220	160	120
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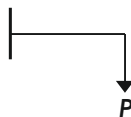
## Cantilever - Apex Down

Span (metres)		
Cantilever Span	3	
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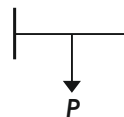
**Uniform Load  
(UDL)**



**Point Load  
(Edge)**



**Point Load  
(Central)**



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- All loads are given in kilograms and are total safe working loads (unfactored) at node points of a chord members only.
- Allowance has been made for self-weight of the truss
- Allowance has been made for frequent use factor of 85%
- The payload on a truss has been calculated as a permanent action. Should it be necessary to consider the payload as a variable action, the tabulated figures should be reduced to 90% of the given values
- No allowance for dynamic loading has been made
- Capacity has been calculated in accordance with BS EN 1999 – Design of Aluminium Structures
- All loads applied are symmetrical between bottom 2 chords considering apex on top.
- All loads applied at the bottom chord considering apex downward
- All deflections stated are theoretical deflections which do not account for any connection slippage. As such the values stated in these tables will be less than the actual deflection of the truss.
- Care must be taken regarding the support condition of the truss. Figures 1 and 2 show the acceptable supporting conditions and figures 3 and 4 show the support condition that should not be used.

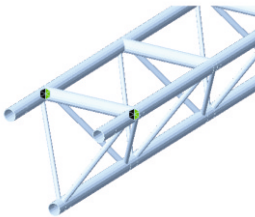


Figure 1: Orientation of the truss supported of top chords

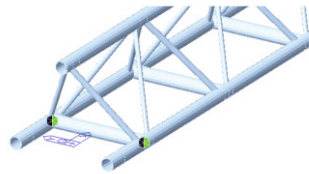


Figure 2: Orientation of the truss supported of bottom chords

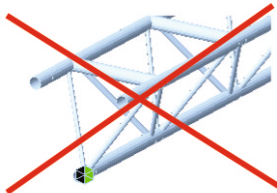


Figure 3: Not allowed orientation of the truss supported of bottom chords

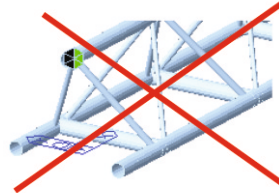


Figure 4: Not allowed orientation of the truss supported of top chords

## OV Truss OV40 Triangular



### Material Specifications

Main Cord:	48 x 3mm
Braces:	Special Extrusion
Material Specifications:	EN AW-6082 T6
Fixings:	Conical : TFC pins & R3 Clips

### Accessories

Circles  
Hinges and Swivels  
Bespoke Lengths  
Ladder Sections

### Item Codes, Weights and Dimensions

OV40-025	'OV' Truss, 40cm Tri, 0.25Mt section	250mm x 400mm x 353mm	2.6kg
OV40-050	'OV' Truss, 40cm Tri, 0.5Mt section	500mm x 400mm x 353mm	3.5kg
OV40-100	'OV' Truss, 40cm Tri, 1.0Mt section	1000mm x 400mm x 353mm	6.0kg
OV40-200	'OV' Truss, 40cm Tri, 2.0Mt section	2000mm x 400mm x 353mm	11.2kg
OV40-300	'OV' Truss, 40cm Tri, 3.0Mt section	3000mm x 400mm x 353mm	16.3kg
OV40-400	'OV' Truss, 40cm Tri, 4.0Mt section	4000mm x 400mm x 353mm	21.3kg
OV40-90	'OV' Truss, 40cm Tri, 90 deg corner	500mm x 500mm x 353mm	5.8kg
OV40-3W	'OV' Truss, 40cm Tri, 3way corner	600mm x 500mm x 353mm	6.9kg
OV40-4W	'OV' Truss, 40cm Tri, 4way corner	600mm x 600mm x 353mm	8kg
OV40-GPC	'OV' Truss, 40cm Tri, Goal Post corner	500mm x 500mm x 353mm	5.7kg
OV30-FC100	'OV' Truss, Female bolt-on Connector - 100mm	100mm x 48mm x 48mm	0.4kg
OV30-MC100	'OV' Truss, Male bolt-on Connector - 100mm	100mm x 48mm x 48mm	0.6kg
OV40-BP	'OV' Truss, 40cm, Ali Base plate, 50cm Squ - No conns	600mm x 600mm x 8mm	5kg
OV40-TPB	'OV' Truss, 40cm, Truss Pickup Beam - 1000Kgs	422mm x 170mm x 65mm	5.2kg

### Design Specification

Manufactured in accordance with

BS EN 1090-3:2008 : Technical Requirements for aluminium structures

EN ISO 9001:2015 : Quality management systems

BS EN 1999 Pt 1-1 : Design of Aluminium Structures, General structural rules

EN17115: Entertainment Technology : Specifications for design, manufacture of aluminium and steel trusses and towers

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