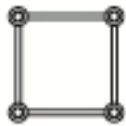




# DURATRUSS®



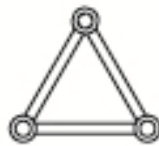
**DT 23**



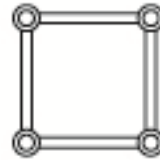
**DT 24**



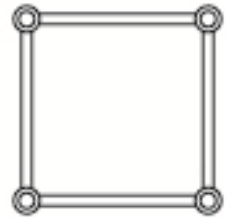
**DT 32**



**DT 33**



**DT 34**



**DT 44**

## Operating Manual

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**DURATRUSS B.V.**

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**General instructions:** For your safety, it is recommended that you thoroughly read and understand this operating manual before you use the truss systems. The instructions in this operating manual contain important information on safety and maintenance during use.

All persons who have anything to do with this product in whatsoever manner should take note of all the information in this operating manual and be knowledgeable regarding the construction of truss systems.

**Introduction:** Thank you for choosing to purchase a DURATRUSS product. The DT 23, DT 24, DT 32, DT 33, DT 34 and DT 44 DURATRUSS series is a high quality TÜV-tested truss with conical clutches, which is produced according to the strictest standards.

Due to their compactness, strength and flexibility, the DT 23, DT 24, DT 32, DT 33, DT 34 and DT 44 series is multifunctional and is ideally suited for all fixed installations, hiring and exhibition stands and booths due to its unlimited fields of application.

Products from the DT 23, DT 24, DT 32, DT 33, DT 34 and DT 44 series can be connected together for longer spans. In combination with corners, tee or cross pieces and/or Box Corners, complex designs can be assembled.

The DT 23, DT 24, DT 32, DT 33, DT 34 and DT 44 series was not designed to carry people. If a structure for carrying people is needed, the local resistance and safety standards must be observed.

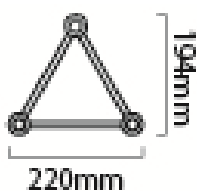
**Warning!**

Always wear safety shoes and protective gloves for transporting as well as installation and dismantling of the truss structure.

- Treat the trusses with caution. Do not drop them or drag them on the ground, and do not throw truss parts on top of one another.
- Protect the trusses from sharp objects.
- Vertical transport or storage should be avoided. The risk of the trusses falling is too great.
- The transport and storage in truss-dollies in combination with truss-carriers is the best solution. It simplifies transport and storage, and protects the trusses during transport.



Main pipe	35 x 2 mm
Connecting pipes	8 mm
Aluminium	EN-AW 6060 T66 (AlMgSi0,5 T66)

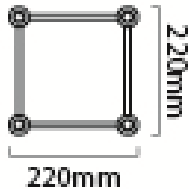


Load table DT 23	2m	4m	6m	8m	10m	12m
Point load (kg)	89	79	63	41	33	24
Deflection (mm)	0.8	3.9	8.95	17.2	28.5	43.2
Distributed load (kg / m)	215	62	23	14	8	5
Deflection (mm)	2.1	7	10.9	21.8	37.5	55.4

## DURATRUSS - DT 24

## Specifications

Main pipe	35 x 2 mm
Connecting pipes	8 mm
Aluminium	EN-AW 6060 T66 (AlMgSi0,5 T66)

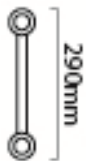


Load table DT 24	2m	4m	6m	8m	10m	12m
Point load (kg)	178	122	104	86	71	59
Deflection (mm)	1.2	3.8	12	22.1	38.16	64.15
Distributed load (kg / m)	375	105	40	23	11	8
Deflection (mm)	2.5	7.7	16.76	32.6	44.12	60.6

## DURATRUSS - DT 32

## Specifications

Main pipe	50 x 2 mm
Connecting pipes	20 x 2 mm
Aluminium	EN-AW 6082 T66 (AlMgSi0,5 T66)

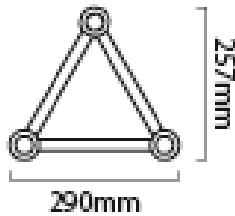


Load table DT 32	1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m
Point load (kg)	1200	1040	670	500	420	340	300	250	230	200	180	160
Deflection (mm)	2.3	5.3	11	13.3	20.5	28	38.7	47.7	62.5	74.4	89.9	104.5
Distributed load (kg / m)	1200	652	400	219	144	97	74.3	58.1	45	35.1	29.2	25.1
Deflection (mm)	2.3	5.4	8.7	16.2	23.9	33.9	46.5	58.2	72.3	88	105.5	126.1

## DURATRUSS - DT 33

## Specifications

Main pipe	50 x 2 mm
Connecting pipes	20 x 2 mm
Aluminium	EN-AW 6082 T6 (AlMgSil)

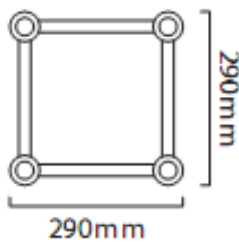


Load table DT 33	1m	1.5m	2m	3m	4m	5m	6m	8m	10m	12m
Point load (kg)	725	660	600	490	415	350	270	205	160	135
Deflection (mm)	1.6	2.2	2.9	5.8	10.5	16.5	16.8	33.4	50.8	81.3
Distributed load (kg / m)	1300	1010	750	396	195	133	98	56	35	23
Deflection (mm)	2.1	3.1	4.8	7.4	12.6	24	29	52.5	82.2	115.2

## DURATRUSS - DT 34

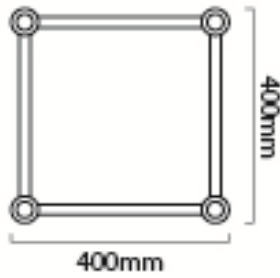
## Specifications

Main pipe	50 x 2 mm
Connecting pipes	20 x 2 mm
Aluminium	EN-AW 6082 T6 (AlMgSil)



Load table DT 34	1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m
Point load (kg)	2400	2080	1340	1000	840	680	600	500	460	400	360	320
Deflection (mm)	2.3	5.3	11	13.3	20.5	28	38.7	47.7	62.5	74.4	89.8	104.5
Distributed load (kg / m)	2400	1304	800	438	288	194	149	116	90	70	58	50
Deflection (mm)	2.3	5.4	8.7	16.2	23.9	33.9	46.5	58.2	72.3	88	105.5	126.1

Main pipe	50 x 2 mm
Connecting pipes	20 x 2 mm
Aluminium	EN-AW 6082 T6 (AlMgSil)



Load table DT 44	2m	4m	6m	8m	10m	12m	14m	16m
Point load (kg)	568	458	425	387	362	329	303	286
Deflection (mm)	1.2	2.4	6.2	14.1	25.2	39.6	58.3	79.8
Distributed load (kg / m)	839	461	308	178	119	81	56	45
Deflection (mm)	2.9	6	17.9	37	55	78	105	134

DURATRUSS products must be thoroughly checked at least once a year by a qualified person. Depending on the standards required and the adaptation, it may be necessary to perform these checks more often.

Should the trusses be used as a lifting tool the guidelines for the use of machinery, as well as local legislation, are crucial for the control intervals.

The responsibility and liability for the safe use of the tresses lies primarily with the user. If one of the points mentioned below apply, the truss must no longer be used or installed under any circumstances.

### WARNING!

DURATRUSS products must be checked and inspected visually for damage or other matters that might have a negative effect on the product properties.

#### A. General information

- Never use trusses whose manufacturer, model code or date of production is unknown.
- Permanent deformation of a truss section by twisting, bending, or any other alteration to the original shape.
- Welding seams that seize or are damaged. The opening at the welding seam of the connecting pipes is normal and was included in the TÜV calculations.
- Any incomplete welding seam, except the openings in the connecting pipes (steel bolts & safety clip recording).
- Welding seams that are more than 10% worn.
- Strong corrosion reduces the permissible load by at least 10%.

#### B. Main pipes

- A broken or partially torn/broken main pipe.
- A bent main pipe.
- Deflection of the end pieces so that they can not be properly connected to a different truss.
- Each scratch or cut that is deeper than 1 mm and is longer than 10mm, and this irrespective of the direction of rotation.
- Permanent deformation of the main pipe by dents or oval deformation.

#### C. Connecting pipes

- A broken or partially torn/broken connecting pipe.

- A bent connecting pipe.
- Each scratch or cut that is deeper than 0.5mm and is longer than 10mm, and this irrespective of the direction of rotation.
- Every hole in the connecting pipe.
- Permanent deformation of the main pipe by dents or oval deformation.

**D. Conical couplings**

- Cracked or broken parts of the female connector.
- Cracked or partially broken welding seams of the connecting pieces of the main pipe.
- Each oval worn hole in the connection couplings of the main pipe or the conical clutches.

**E. Steel pins**

The steel bolts are disposable products. These should be replaced upon noticing of visible damage or deformation. The condition of these bolts gives an idea of the scope of the load or over-loading on the structure.

- Alteration of the original diameter.
- Notches, dents or scratches in the smooth surface.
- Deformation due to the use of a hammer, to the extent that the safety clip can no longer be utilised.
- Completely or partially corroded bolts.
- Self locking nuts, of which the plastic seal is broken.

Inspect the trusses and their accessories for any wear or damage before each use.

**Warning!**

Never use worn or damaged truss products or accessories!



1. Make sure that all parts meet inspection criteria.
2. Place the conical connector into the conical end pieces of the truss pipes. Please make sure that the larger opening for the accommodation of the steel bolts always faces outwards.
3. Secure the conical connector with the steel bolts and safety clips (for mobile use) or with the steel bolts with M8 threads and M8 nuts for fixed installations. Use a 500g hard rubber hammer or copper hammer to drive in the bolts.
4. Insert the next truss into the connector and secure it again with the steel bolt and Safety-Clips/M8 nuts as described in point 3.

This multi-functional adjustable truss system was developed to create designs for hanging professional entertainment lighting, sound systems, etc.

Make sure that the place where the truss system will be assembled or dismantled, or where the maintenance work is to take place, is not accessible to outside people who have nothing to do with the work.

Suspended, "flown" trusses must always be secured with the appropriate Safety's and load slings by trained personnel.

Any changes or modifications of the product are prohibited for technical safety reasons.

### Warning!

The spans and loads must never exceed the values given in this operating manual. DURATRUSS was not designed to carry people. If the truss structure should be used to carry people, the local safety regulations and standards apply.

When using 3-way corners in a 3D design, the maximum permissible load must be reduced by half.

### **Danger to life!**

Installation is to above all fulfil the safety regulations BGV C1 (DE) and DIN 15560. The installation may only be carried out by qualified personnel.

The suspension system of "flown" trusses must withstand 10 times the approved load for at least one hour, without permanent detrimental deformation occurring.

A "flown" truss must always be hung outside of the public area.

The installation must always be secured by a second, independent suspension system, so that no parts can fall down if the primary suspension system fails.

In this case, the maximum bagging height should not exceed 20cm. A safety cable that is damaged or affected by falling may no longer be used and must be replaced.

Each truss structure must be grounded!

### **Screening guidelines!**

Important! To "fly" trusses over an audience requires a great deal of experience, with knowledge of load calculations, the correct use of construction materials, regular safety inspections and the local safety regulations. If you do not have the necessary qualifications, the construction work is to be carried out by a professional fitter.

Unprofessional structures can lead to damage and accidents!

### **Warning!**

Regarding "flown" truss structures at public events, numerous safety requirements are to be followed, which are not described in detail in this operating manual. The user should inform themselves of any applicable safety requirements on site.

DURATRUSS is not responsible for damage caused by improper installation or insufficient safety precautions.

Truss products are often exposed to heavy loads and therefore must also be maintained. Special attention should be paid to the conical clutches. These are disposable products, which must be replaced upon the appearance of visible signs of wear.

- Regularly smooth out the surface of the steel bolts with fine sandpaper.
- Regularly lubricate the steel bolts with silicone-oil/spray or equivalent lubricant.

**Watch out! Do not use sticky lubricants, these attract dust and dirt.**

### Warning!

Failure to perform regular inspections and maintenance leads to unsafe trusses. This can lead to accidents and even death as a result.

Any damage with negative impact on the safety of the product renders this product unusable. Immediately label the damaged product so that it can no longer be used unintentionally.