

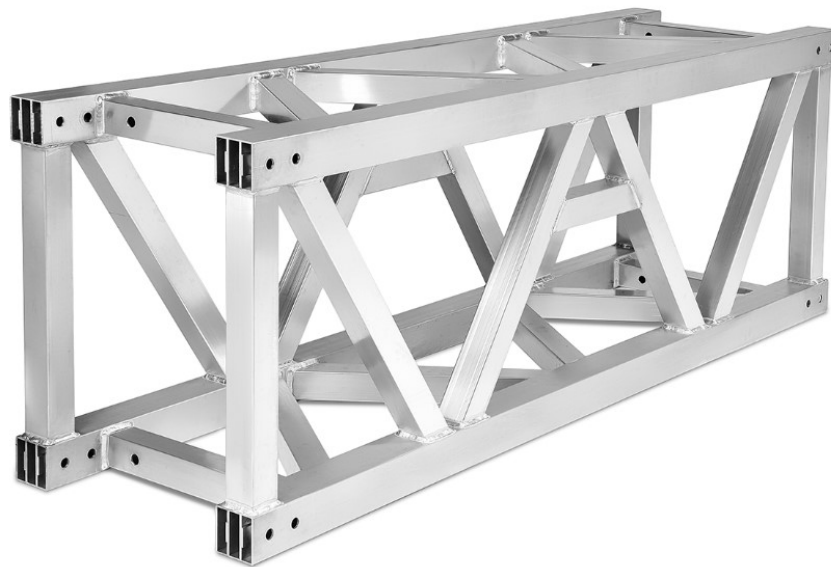


PROLYTE

BGR70 Truss

User manual

Part 2: Product-specific instructions



Original instructions

DN00175 Issue 1

July 2023



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If you have a warranty claim, malfunction or spare part inquiry, contact your point of sale or the manufacturer.

If you have comments or improvement ideas for this document, please contact us by using the e-mail address found on the back cover of the document. All comments and ideas will be carefully considered in the future development of the product or this document.

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Change history

Issue	Date	Changes
1	July 2023	First issue.

1 Introduction

This manual is intended for truss owners, providers and skilled riggers and any person who has been trained in working safely with trusses.

This manual is Part 2 of the User Manual. The User Manual consists of the following parts:

- Part 1: General instructions
- Part 2: Product-specific instructions

This manual must be read in conjunction with *Part 1: General instructions* of the User Manual.

If there are discrepancies between *Part 1* and *Part 2*, the information given in *Part 2* is the information that applies to the product and overrides the information given in *Part 1*.

This manual assumes that you have been trained or work under the control of a competent or qualified person who has been trained in safety and assembly.

1.1 About this product

PROLYTE trusses are structural elements designed to be repeatedly assembled and disassembled to carry loads in temporary or permanent installations. Depending on the application, PROLYTE trusses can be referred to as lifting accessories or construction products. For information on the related standards, see Chapter 1.5.

The BGR series can be used for indoor and outdoor structures.

1.2 Related information

For more information on the product, see www.prolyte.com/products/aluminium-truss.

1.3 About this manual

Before working with the product, read this manual carefully and pay attention to the information provided. Use this manual to familiarize yourself with the product, its proper use and safety regulations.

1.3.1 Safety conventions



Indicates a hazardous situation, which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme situations.



Indicates a hazardous situation, which, if not avoided, could result in death or serious injury.



Indicates a hazardous situation, which, if not avoided, could result in minor or moderate injury.



Indicates information considered important but not hazard-related.

1.4 Terminology

See *PROLYTE Trusses User Manual, Part 1: General instructions*.

Trusses and truss modules are hereinafter referred to by the term “truss”.

1.5 Standards

See *PROLYTE Trusses User Manual, Part 1: General instructions*.

2 Safety

Before working with the product, see the section *Safety* in *PROLYTE Trusses User Manual, Part 1: General instructions*. Read the Safety information carefully and pay attention to the information provided.

In addition to the Safety information provided in Part 1, make sure you read the Safety information provided in this product-specific user manual.

NOTICE

Read these safety texts carefully before working with the product.

NOTICE

Make sure manuals are available at all times for all users and employees.

3 Limitations of use

Make sure you read the information provided in section *Limitations of use* in *PROLYTE Trusses User Manual, Part 1: General instructions*.

PROLYTE trusses described in this manual are not specifically designed for lifting people. Adequate load reduction and safety precautions, according to local legislation, must be considered when people are lifted.

3.1 Allowable loading

For load capacity information, see Chapter 7.

3.2 Structural data

All our trusses are calculated according to the Eurocode 9 (DIN-EN 1999) standard. Eurocodes are standards based on Load and Resistance Factor Design (LRFD).

WARNING

The structural data provided before January 2016 was based on the German DIN 4113 standard. As this standard had a different safety principle, the structural values cannot be compared.

NOTICE

TÜV certificates issued after February 2015 are all based on Eurocode 9.

Code	Type	Material	Geometry								
			Dimensions centre to centre		Main chord [mm]	diagonals [mm]	Cross-section complete truss				Average dead weight
			Height	Width			A	I _y	I _z	I _T	g
			[mm]	[mm]			[cm ²]	[cm ⁴]	[cm ⁴]	[cm ⁴]	[kg/m]
BGR70	Rectangular	6082 T6	610	470	80x80	60x60	79.68	74646.44	44510.56	-	45

Table 1: Geometry

Code	Design values of resistances				
	Main chord	Complete truss			
	N _{rd}	M _{y,rd}	M _{z,rd}	V _{z,rd}	V _{y,rd}
	[kN]	[kNm]	[kNm]	[kN]	[kN]
BGR70	229.6	280.1	215.8	113.4	33.6

Table 2: Design values of resistances

4 Transport, handling and storage

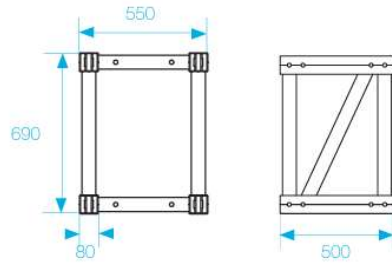
See *PROLYTE Trusses User Manual, Part 1: General instructions*.

5 Identification

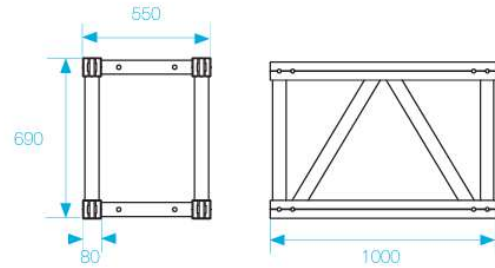
See *PROLYTE Trusses User Manual, Part 1: General instructions*.

6 Technical specifications

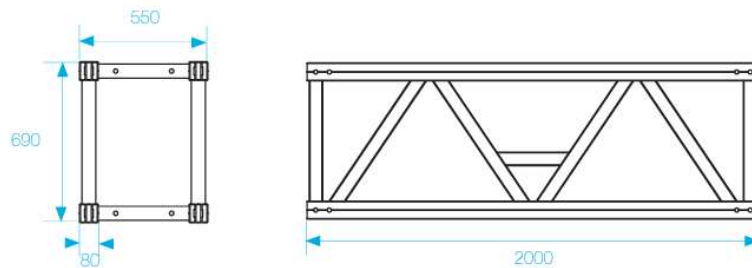
BGR70-L050



BGR70-L100



BGR70-L200



BGR70 – standard available lengths and codes

Metres	Feet	Code
0,50	1,64	BGR70-L050
1,00	3,28	BGR70-L100
2,00	6,56	BGR70-L200

Technical Specifications – BGR70

Type	BGR70
Alloy	EN AW 6082-T6
Truss height	690 mm
Truss width	550 mm
Self-weight	45 kg/m
Main chord	80x80x5 mm
Bracing	60x60x3,5 mm
Coupling system	Lug 70x20 mm + pin 18 mm

Pre-camber options

Using the BGR70 truss with pre-camber options, you can create an absolute straight truss span. A combination of lugs ranging from 0mm to 4mm can create a pre-camber effect that will result in zero deflection, despite the applied loading.

7 Load capacity

In addition to the information and instructions provided in *PROLYTE Trusses User Manual, Part 1: General instructions*, the truss loads shall never exceed the values stated in the load tables below.

BGR70 - Allowable Loading																		
SPAN		Uniformly Distributed Load				DEFLECTION		CPL		DEFLECTION		TPL		DPL		FPL		SPAN
		UDL	UDL	UDL	UDL	mm	inch	kg	lbs	mm	inch	kg	lbs	kg	lbs	kg	lbs	
m	ft	kg/m	lbs/ft	mm	inch	kg	lbs	mm	inch	kg	lbs	kg	lbs	kg	lbs	kg	lbs	total weight
10	32,8	1453	978	37	1,5	7267	16038	30	1,2	5450	12028	3633	8019	3028	6682	450		
11	36,1	1194	803	45	1,8	6568	14495	36	1,4	4926	10871	3284	7247	2736	6039	495		
12	39,4	997	671	54	2,1	5981	13201	44	1,7	4486	9901	2991	6601	2492	5500	540		
13	42,6	843	568	63	2,5	5482	12100	51	2,0	4112	9075	2741	6060	2284	5042	585		
14	45,9	722	486	73	2,9	5052	11149	60	2,3	3789	8362	2526	5575	2105	4645	630		
15	49,2	623	419	84	3,3	4675	10320	69	2,7	3507	7740	2338	5160	1948	4300	675		
16	52,5	543	366	96	3,8	4344	9588	78	3,1	3258	7191	2172	4794	1810	3995	720		
17	55,8	476	321	109	4,3	4049	8937	89	3,5	3037	6703	2025	4469	1687	3724	765		
18	59,0	421	283	122	4,8	3785	8354	100	3,9	2839	6265	1893	4177	1577	3481	810		
19	62,3	373	251	136	5,3	3546	7827	112	4,4	2660	5870	1773	3914	1478	3261	855		
20	65,6	333	224	151	5,9	3330	7349	124	4,9	2497	5511	1666	3674	1387	3052	900		
21	68,9	298	201	166	6,5	3132	6911	137	5,4	2349	5184	1566	3456	1305	2880	945		
22	72,2	268	180	183	7,2	2950	6510	151	6,0	2212	4882	1475	3255	1229	2712	990		
23	75,4	242	163	200	7,9	2782	6139	166	6,5	2086	4605	1391	3070	1159	2558	1035		
24	78,7	219	147	218	8,6	2626	5796	182	7,2	1970	4347	1313	2898	1094	2415	1080		
25	82,0	199	134	237	9,3	2481	5477	198	7,8	1861	4107	1241	2738	1034	2282	1125		
26	85,3	180	121	257	10,1	2346	5178	216	8,5	1760	3884	1173	2589	978	2158	1170		
27	88,6	164	111	277	10,9	2220	4899	234	9,2	1665	3674	1110	2449	925	2041	1215		
28	91,8	150	101	299	11,8	2101	4636	253	10,0	1575	3477	1050	2318	875	1932	1260		
29	95,1	137	92	321	12,6	1988	4388	273	10,7	1491	3291	994	2194	828	1828	1305		
30	98,4	126	84	344	13,5	1882	4154	293	11,6	1412	3116	941	2077	784	1731	1350		
31	101,7	116	77	368	14,5	1782	3932	315	12,4	1336	2949	891	1966	742	1638	1395		
32	105,0	106	71	393	15,5	1686	3721	338	13,3	1265	2791	843	1861	703	1551	1440		
33	108,2	97	66	419	16,5	1595	3521	362	14,2	1196	2640	796	1760	666	1467	1485		
34	111,5	89	60	445	17,5	1508	3329	386	15,2	1131	2497	754	1664	628	1387	1530		
35	114,8	81	56	473	18,6	1425	3146	412	16,2	1069	2359	713	1573	594	1311	1575		
36	118,1	75	50	501	19,7	1346	2970	439	17,3	1009	2228	673	1485	561	1238	1620		
37	121,4	69	46	531	20,9	1269	2802	467	18,4	952	2101	635	1401	529	1167	1665		
38	124,6	63	42	561	22,1	1196	2640	496	19,5	897	1980	598	1320	498	1100	1710		
39	127,9	58	39	592	23,3	1125	2484	526	20,7	844	1863	563	1242	469	1035	1755		
40	131,2	53	36	624	24,6	1057	2334	557	21,9	793	1750	529	1167	441	972	1800		
41	134,5	48	33	657	25,9	992	2188	589	23,2	744	1641	496	1094	413	912	1845		
42	137,8	44	30	692	27,2	928	2048	623	24,5	696	1536	464	1024	387	853	1890		
43	141,0	40	27	727	28,6	866	1912	658	25,9	650	1434	433	956	361	797	1935		
44	144,3	37	25	763	30,0	807	1780	694	27,3	605	1335	403	890	336	742	1980		
45	147,6	33	22	800	31,5	749	1652	732	28,8	561	1239	374	826	312	688	2025		

1 Inch = 25,4 mm | 1m = 3,28 ft | 1 lbs = 0,453 kg

- Tuv certification only valid for loading table above.
- Loading figures are only valid for static loads.
- Loading figures are only valid for single spans with supports at both ends.
- All static systems, other than single spans, need an individual structural calculation. Please contact a structural engineer or Prolyte for assistance.
- Loading figures are calculated according to and in full compliance with European standards (Eurocode).
- The self-weight of the trusses is already taken into account.
- Loading figures are only valid for the cross sectional orientation of the truss as shown by the icon in the loading table.
- The interaction between bending moment and shear force at the connection point is already taken into account.
- Truss spans can be assembled from different truss lengths.
- Read the manual before assembling, using and loading the truss.

8 Approved accessories

For a complete overview of approved accessories, see our brochures or www.prolyte.com.

WARNING

By using excessive force when tightening accessories such as lamp hooks or cell clamps, you may cause damage to the truss chords.

CAUTION

Pay special attention when using lamp hooks or cell clamps. Their inside radius may not meet the tube they need to be attached to. This can lead to severe damage.

NOTICE

You should never allow accessories to damage other products.

9 Coatings and surface treatments

See *PROLYTE Trusses User Manual, Part 1: General instructions*.

10 Slinging methods

See *PROLYTE Trusses User Manual, Part 1: General instructions*.

11 Assembly and disassembly

See *PROLYTE Trusses User Manual, Part 1: General instructions*.

12 Maintenance

See *PROLYTE Trusses User Manual, Part 1: General instructions*.

13 Inspection

See *PROLYTE Trusses User Manual, Part 1: General instructions*.

14 Discard criteria

See *PROLYTE Trusses User Manual, Part 1: General instructions*.

15 Warranty

See *PROLYTE Trusses User Manual, Part 1: General instructions*.

16 Certificates

The TÜV certificates for this product are available at:

<https://www.prolyte.com/support/certificates/certificates-download>

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