

Data sheet

RAL-GZ 655 / 656 Certified Products

RAL-Quality hallmark

Walraven is one of the initiators of the 'Gütegemeinschaft Rohrbefestigung' (Safe Connection). The most important producers of pipe fixing systems have set up univocal product quality guidelines in this quality association. The 'Gütegemeinschaft Rohrbefestigung' has become acknowledged in 2003 by the RAL, the German institute for quality guarantees.

Benefits

The technical properties of the products, like the maximum safe working load, are established and published by means of a standardised measuring method.

Within the measuring method the maximum allowed load is calculated, taking a maximum deflection into consideration.

With the RAL-mark the quality of the pipe fixing products, like clamps and fixing rails of the participating manufacturers becomes clear and are easily comparable.

Currently four measuring methods for the load capacity of pipe fixing products under normal temperatures have been published:

- pipe clamps (RAL-GZ 655/B)
- fixing rail (RAL-GZ 655/C)
- rail accessoires (RAL-GZ 655/D)
- cantilever arms (RAL-GZ 655/E)

Also one measuring method for the load capacity of pipe clamps during fire:

- pipe clamps (RAL-GZ 656)

The maximum safe working loads which are mentioned in the tables are based on:

- 1) A Walraven developed measuring method;
- 2) The measuring method prescribed in the testing prescriptions RAL-GZ 655 and RAL-GZ 656, which is set up by the 'Gütegemeinschaft Rohrbefestigung'. If the product is provided with the 'RAL-Gütezeichen', the test results are checked by an independent testing institute.

The 'RAL-Gütezeichen' is exclusively given to products which satisfy high quality standards and is an evidence of quality. This gives the users of pipe fixings certainty and trust!

Certified products are recognisable by:



For additional information:

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For the max. allowed load ($F_{a,z}$) per part number and RAL-certificate we refer to the product page or our webcatalogue on www.walraven.com.



		Part No.	Dimension (mm)	For Rail	Catalogue page	RAL-GZ Cert. No.	
	Walraven RapidRail® Fixing Rail Pre-galvanized	650 5 X00	WM0 (27 x 18 x 1.20)	-	G 04 05	655/C	2012-03
		650 5 X01	WM1 (30 x 15 x 2.00)	-	G 04 05	655/C	2012-03
		650 5 51X	WM1 (30 x 15 x 2.00)	-	G 04 05	655/C	2012-03
		650 5 X15	WM15 (30 x 20 x 1.75)	-	G 04 05	655/C	2012-03
		650 5 X02	WM2 (30 x 30 x 2.00)	-	G 04 05	655/C	2012-03
		650 5 X30	WM30 (30 x 45 x 2.00)	-	G 04 05	655/C	2012-03
	Walraven RapidStrut® Fixing channel Pre-galvanized	650 5 X24	41 x 21 x 1.5	-	H 04 10	655/C	2012-04
		650 5 X22	41 x 21 x 2.0	-	H 04 10	655/C	2012-04
		650 5 X25	41 x 21 x 2.5	-	H 04 10	655/C	2012-04
		650 5 X44	41 x 41 x 1.5	-	H 04 10	655/C	2012-04
		650 5 X42	41 x 41 x 2.0	-	H 04 10	655/C	2012-04
		650 5 X45	41 x 41 x 2.5	-	H 04 10	655/C	2012-04
	Walraven RapidStrut® Fixing Rail Walraven BIS UltraProtect® 1000	6501 8 X27	41 x 21 x 2.5	-	H 04 13	655/C	2015-02
		6501 8 X42	41 x 41 x 2.0	-	H 04 13	655/C	2015-02
		6501 8 X47	41 x 41 x 2.5	-	H 04 13	655/C	2015-02
	Walraven RapidRail® Stainless Steel Fixing Rail Stainless steel	650 7 002	WM2 (30 x 30 x 2.0)	-	M 20 05	655/C	2012-07
		-	-	-	-	-	-
		-	-	-	-	-	-
	Walraven RapidRail® Ball Swivel Hangers Zinc plated	652 0 X00	M8	WM1, 2, 15, 30	G 30 60	655/D	2012-11
		652 0 X10	M10	WM1, 2, 15, 30	G 30 60	655/D	2012-11
		-	-	-	-	-	-
	Walraven RapidRail® Connector Zinc plated	654 3 001	200 mm	WM1, 2, 15, 30	G 35 35	655/D	2012-08
		-	-	-	-	-	-
		-	-	-	-	-	-
	Walraven RapidRail® T-Connector Zinc plated	658 4 090	-	WM1, 2, 15, 30	G 35 45	655/D	2012-08
		-	-	-	-	-	-
		-	-	-	-	-	-
	Walraven RapidRail® X-Connector Zinc plated	658 4 091	-	WM1, 2, 15, 30	G 35 45	655/D	2012-08
		-	-	-	-	-	-
		-	-	-	-	-	-
	Walraven RapidRail® Connectors 90° Zinc plated	658 4 00X	WM0 - 35	WM1, 2, 15, 30	G 35 05	655/D	2012-09
		658 4 011	WM0 - 35	WM1, 2, 15, 30	G 35 05	655/D	2012-09
		-	-	-	-	-	-
	Walraven RapidRail® Connectors 135° Zinc plated	658 4 05X	WM0 - 35	WM1, 2, 15, 30	G 35 10	655/D	2012-09
		-	-	-	-	-	-
	Walraven RapidRail® Cross Connectors Zinc plated	658 4 150	27 x 18	WM0, 1, 15	G 35 50	655/D	2012-10
		658 4 151	30 x 15	WM0, 1, 15	G 35 50	655/D	2012-10
		658 4 152	30 x 20	WM0, 1, 15	G 35 50	655/D	2012-10
	Walraven RapidRail® Rail Suspension Bracket Zinc plated	679 3 008	M8	WM1, 2, 15, 30	G 20 40	655/D	2012-09
		-	-	-	-	-	-
		-	-	-	-	-	-

RAL-GZ 655/C: for the max. allowed load (Fa,z) per part number and RAL-certificate we refer to the product page, the loading tables or our webcatalogue on www.walraven.com

RAL-GZ 655/D: for the max. allowed load (Fa,z) per part number and RAL-certificate we refer to the product page or our webcatalogue on www.walraven.com

The max. allowed load ($F_{a,z}$) according to RAL-GZ 655/B is calculated using specific statistical methods related to the breaking load and taking into account a deflection of 1,5 mm or 2% of the maximum nominal clamp diameter.

According to the RAL requirements, the test results from above mentioned RAL certified articles are monitored by an independent test institute.

The max. allowed load ($F_{a,z}$) according to RAL-GZ 655/B is calculated using specific statistical methods related to the breaking load and taking into account a deflection of 1,5 mm or 2% of the maximum nominal clamp diameter.

According to the RAL requirements, the test results from above mentioned RAL certified articles are monitored by an independent test institute.



The max. allowed load (Fa,z) according to RAL-GZ 655/B is calculated using specific statistical methods related to the breaking load and taking into account a deflection of 1,5 mm or 2% of the maximum nominal clamp diameter.

According to the RAL requirements, the test results from above mentioned RAL certified articles are monitored by an independent test institute.

Max. allowed load (Fa,z) according to RAL-GZ 655/B



Cert. No.
2005-07

Part No.	Ø (mm)	Connection nut	Catalogue page	RAL-GZ 655/B
				F0
				Fa,z (N)
311 3 XXX	11 - 56	M8	A 05 30	220
311 3 XXX	57 - 67	M8	A 05 30	430
311 3 XXX	70 - 85	M8	A 05 30	750
310 3 XXX	11 - 56	M8/10	A 05 30	220
310 3 XXX	57 - 67	M8/10	A 05 30	430
310 3 XXX	70 - 141	M8/10	A 05 30	750
310 3 XXX	159 - 168	M8/10	A 05 30	1.220
312 3 XXX	11 - 56	M10	A 05 35	220
312 3 XXX	57 - 67	M10	A 05 35	430
312 3 XXX	70 - 141	M10	A 05 35	750
312 3 XXX	159 - 219	M10	A 05 35	1.220

The max. allowed load (Fa,z) according to RAL-GZ 655/B is calculated using specific statistical methods related to the breaking load and taking into account a deflection of 1,5 mm or 2% of the maximum nominal clamp diameter.

According to the RAL requirements, the test results from above mentioned RAL certified articles are monitored by an independent test institute.

Max. allowed load (Fa,z) according to RAL-GZ 655/B

				 Cert. No. 2005-07
				RAL-GZ 655/B
				F0
Part No.	Ø (mm)	Connection nut	Catalogue page	Fa,z (N)
310 4 XXX	44 - 56	M8/10	A 05 45	220
310 4 XXX	57 - 67	M8/10	A 05 45	430
310 4 XXX	70 - 141	M8/10	A 05 45	750
The max. allowed load (Fa,z) according to RAL-GZ 655/B is calculated using specific statistical methods related to the breaking load and taking into account a deflection of 1,5 mm or 2% of the maximum nominal clamp diameter. According to the RAL requirements, the test results from above mentioned RAL certified articles are monitored by an independent test institute.				

Walraven 2S Clamps with Lining

Max. allowed load (Fa,z) according to RAL-GZ 655/B

				 Cert. No. 2021-05
Part No.	Ø (mm)	Connection nut	Catalogue page	RAL-GZ 655/B
				F0
				Fa,z (N)
3333 5 XXX	10 - 37	M8	A 05 132	400
3333 5 XXX	38 - 67	M8	A 05 132	600
The max. allowed load (Fa,z) according to RAL-GZ 655/B is calculated using specific statistical methods related to the breaking load and taking into account a deflection of 1,5 mm or 2% of the maximum nominal clamp diameter.				
According to the RAL requirements, the test results from above mentioned RAL certified articles are monitored by an independent test institute.				

				 Cert. No. 2021-06
Part No.	Ø (mm)	Connection nut	Catalogue page	RAL-GZ 655/B
				F0
				Fa,z (N)
3343 5 XXX	10-37	M8/M10	A 05 136	400
3343 5 XXX	38-67	M8/M10	A 05 136	550
3343 5 XXX	68-87	M8/M10	A 05 136	650
3343 5 XXX	88-162	M8/M10	A 05 136	1,250
3343 5 XXX	163-225	M8/M10	A 05 136	2,150
The max. allowed load (Fa,z) according to RAL-GZ 655/B is calculated using specific statistical methods related to the breaking load and taking into account a deflection of 1,5 mm or 2% of the maximum nominal clamp diameter.				
According to the RAL requirements, the test results from above mentioned RAL certified articles are monitored by an independent test institute.				

Max. allowed load ($F_{a,z}$) according to RAL-GZ 655/B and RAL-GZ 656

												
				Cert. No. 2011-12a	Cert. No. 2011-14							
Part No.	Ø (mm)	Conne- ction nut	Cata- logue page	RAL-GZ 655/B	RAL-GZ 656							
				F0	F30		F60		F90		F120	
				Fa,z (N)	Fa,z (N)	Deform- ation (mm)	Fa,z (N)	Deform- ation (mm)	Fa,z (N)	Deform- ation (mm)	Fa,z (N)	Deform- ation (mm)
3313 8 OXX	15 - 64	M8/10	A 10 04	1.500	940	30	380	61	-	-	-	-
3314 8 XXX	65 - 140	M10/12	A 10 04	2.300	1.980	41	910	83	-	-	-	-
3314 8 XXX	159 - 227	M10/12	A 10 04	3.800	1.850	70	1.310	78	-	-	-	-
3316 8 XXX	159 - 250	M16	A 10 06	3.800	1.850*	70*	1.310*	78*	-	-	-	-
3316 8 XXX	265 - 509	M16	A 10 06	9.200	-	-	-	-	-	-	-	-
3317 8 XXX	15 - 64	G½"	A 10 09	1.500	940	30	380	61	-	-	-	-
3317 8 XXX	65 - 140	G½"	A 10 09	2.300	1.980	42	910	83	-	-	-	-
3317 8 XXX	159 - 250	G½"	A 10 09	3.800	1.850*	70*	1.310*	78*	-	-	-	-
3317 8 XXX	265 - 509	G½"	A 10 09	9.200	-	-	-	-	-	-	-	-
* up to 227 mm.												
The max. allowed load (Fa,z) according to RAL-GZ 655/B is calculated using specific statistical methods related to the breaking load and taking into account a deflection of 1,5 mm or 2% of the maximum nominal clamp diameter.												
According to the RAL requirements, the test results from above mentioned RAL certified articles are monitored by an independent test institute.												

The max. allowed load ($F_{a,z}$) according to RAL-GZ 655/B is calculated using specific statistical methods related to the breaking load and taking into account a deflection of 1,5 mm or 2% of the maximum nominal clamp diameter.

According to the RAL requirements, the test results from above mentioned RAL certified articles are monitored by an independent test institute.

Walraven Bifix® 5000

Max. allowed load (Fa,z) according to RAL-GZ 655/B

				 Cert. No. 2005-11
Part No.	Ø (mm)	Connection nut	Catalogue page	RAL-GZ 655/B
				F0
				Fa,z (N)
348 3 067	63	M8	A 25 10	580
348 3 075	75	M8	A 25 10	800
348 3 090	90	M10	A 25 10	1.470
348 3 110	110	M10	A 25 10	1.470
The max. allowed load (Fa,z) according to RAL-GZ 655/B is calculated using specific statistical methods related to the breaking load and taking into account a deflection of 1,5 mm or 2% of the maximum nominal clamp diameter.				
According to the RAL requirements, the test results from above mentioned RAL certified articles are monitored by an independent test institute.				

Max. allowed load (Fa,z) according to RAL-GZ 655/B



Cert. No.
2005-06

Part No.	Ø (mm)	Connection nut	Catalogue page	RAL-GZ 655/B
				F0
				Fa,z (N)
301 3 0XX	15 - 60	M8	B 05 05	390
301 3 068	62 - 68	M8	B 05 05	1.030
301 3 076	73 - 77	M8	B 05 05	1.030
302 3 XXX	18 - 60	M10	B 05 15	390
302 3 XXX	62 - 111	M10	B 05 15	1.030
302 3 XXX	110 - 169	M10	B 05 15	1.450
302 3 XXX	172 - 219	M10	B 05 15	4.000

The max. allowed load (Fa,z) according to RAL-GZ 655/B is calculated using specific statistical methods related to the breaking load and taking into account a deflection of 1,5 mm or 2% of the maximum nominal clamp diameter.

According to the RAL requirements, the test results from above mentioned RAL certified articles are monitored by an independent test institute.

Walraven 2S Clamps

Max. allowed load (Fa,z) according to RAL-GZ 655/B

				 Cert. No. 2021-07
Part No.	Ø (mm)	Connection nut	Catalogue page	RAL-GZ 655/B
				F0
				Fa,z (N)
3300 5 XXX	16-37	M8/M10	B 05 23	7000
3302 5 XXX	38-67	M8	B 05 23	850
The max. allowed load (Fa,z) according to RAL-GZ 655/B is calculated using specific statistical methods related to the breaking load and taking into account a deflection of 1,5 mm or 2% of the maximum nominal clamp diameter.				
According to the RAL requirements, the test results from above mentioned RAL certified articles are monitored by an independent test institute.				

				 Cert. No. 2021-08
Part No.	Ø (mm)	Connection nut	Catalogue page	RAL-GZ 655/B
				F0
				Fa,z (N)
3303 5 XXX	10-37	M8/M10	B 05 24	700
3303 5 XXX	38-67	M8/M10	B 05 24	900
3303 5 XXX	68-87	M8/M10	B 05 24	1,200
3303 5 XXX	88-162	M8/M10	B 05 24	1,800
3303 5 XXX	163-225	M8/M10	B 05 24	2,950
The max. allowed load (Fa,z) according to RAL-GZ 655/B is calculated using specific statistical methods related to the breaking load and taking into account a deflection of 1,5 mm or 2% of the maximum nominal clamp diameter.				
According to the RAL requirements, the test results from above mentioned RAL certified articles are monitored by an independent test institute.				

Walraven HD500

Max. allowed load ($F_{a,z}$) according to RAL-GZ 655/B and RAL-GZ 656



Cert. No.
2011-13a



Cert. No.
2011-05

Part No.	Ø (mm)	Conne- ction nut	Cata- logue page	RAL-GZ 655/B	RAL-GZ 656							
				F0	F30		F60		F90		F120	
				Fa,z (N)	Fa,z (N)	Deform- ation (mm)	Fa,z (N)	Deform- ation (mm)	Fa,z (N)	Deform- ation (mm)	Fa,z (N)	Deform- ation (mm)
3303 8 0XX	15 - 71	M8/10	B 10 04	2.100	940	30	380	61	-	-	-	-
3304 8 XXX	72 - 154	M10/12	B 10 04	4.000	1.980	41	910	83	-	-	-	-
3304 8 XXX	159 - 227	M10/12	B 10 04	8.200	1.850	70	1.310	78	-	-	-	-
3306 8 XXX	159 - 279	M16	B 10 06	8.200	1.850*	70*	1.310*	78*	-	-	-	-
3306 8 XXX	279 - 509	M16	B 10 06	12.000	-	-	-	-	-	-	-	-
3307 8 XXX	15 - 71	G½"	B 10 09	2.100	940	30	380	61	-	-	-	-
3307 8 XXX	72 - 154	G½"	B 10 09	4.000	1.980	41	910	83	-	-	-	-
3307 8 XXX	159 - 279	G½"	B 10 09	8.000	1.850*	70*	1.310*	78*	-	-	-	-
3307 8 XXX	279 - 509	G½"	B 10 09	12.000	-	-	-	-	-	-	-	-

* up to 227 mm.

The max. allowed load (Fa,z) according to RAL-GZ 655/B is calculated using specific statistical methods related to the breaking load and taking into account a deflection of 1,5 mm or 2% of the maximum nominal clamp diameter.

According to the RAL requirements, the test results from above mentioned RAL certified articles are monitored by an independent test institute.

Max. allowed load (Fa,z) according to RAL-GZ 655/B

				 Cert. No. 2004-09
				RAL-GZ 655/B
				F0
Part No.	Ø (mm)	Connection nut	Catalogue page	Fa,z (N)
301 7 XXX	72 - 89	M8	M 10 05	1.500
301 7 XXX	110 - 118	M8	M 10 05	1.900
302 7 XXX	62 - 105	M10	M 10 05	1.500
301 7 XXX	106 - 118	M10	M 10 05	1.900
301 7 XXX	129 - 219	M10	M 10 05	1.900
The max. allowed load (Fa,z) according to RAL-GZ 655/B is calculated using specific statistical methods related to the breaking load and taking into account a deflection of 1,5 mm or 2% of the maximum nominal clamp diameter. According to the RAL requirements, the test results from above mentioned RAL certified articles are monitored by an independent test institute.				

Walraven KSB2 Clamps with Lining

Max. allowed load (Fa,z) according to RAL-GZ 655/B



Cert. No.
2021-09

Part No.	Ø (mm)	Connection nut	Catalogue page	RAL-GZ 655/B
				F0
				Fa,z (N)
301 7 XXX	72 - 89	M8	M 10 05	1.500
301 7 XXX	110 - 118	M8	M 10 05	1.900
302 7 XXX	62 - 105	M10	M 10 05	1.500
301 7 XXX	106 - 118	M10	M 10 05	1.900

The max. allowed load (Fa,z) according to RAL-GZ 655/B is calculated using specific statistical methods related to the breaking load and taking into account a deflection of 1,5 mm or 2% of the maximum nominal clamp diameter.

According to the RAL requirements, the test results from above mentioned RAL certified articles are monitored by an independent test institute.