

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 4 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 1 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:





								
		Part No.	Connection nut	Catalogue page	Dimension (mm)	RAL-GZ 655/B Cert. No.	Dimension (mm)	RAL-GZ 656 Cert. No.
	BISMAT® Flash Zinc plated	337 3 XXX	M8	A 05 05	15 - 63	2010-23	15 - 63	2011-09
		337 4 XXX	M8/10	A 05 05	15 - 63	2010-23	15 - 63	2011-09
		-	-	-	-	-	-	-
	BISMAT® 2000 Zinc plated	341 3 OXX	M8	A 05 10	15 - 63	2010-22	15 - 63	2011-10
		340 3 XXX	M8/10	A 05 10	15 - 63	2010-22	15 - 63	2011-10
		340 3 XXX	M8/10	A 05 15	57 - 141	2005-08	57 - 114	2011-10
	BISMAT® 2000 'S' Zinc plated	341 4 OXX	M8	A 05 20	15 - 63	2005-08	15 - 63	2011-11
		340 4 OXX	M8/10	A 05 20	15 - 63	2005-08	15 - 63	2011-11
		-	-	-	-	-	-	-
	BIS Bifix® 1301 Zinc plated	311 3 OXX	M8	A 05 30	11 - 85	2005-07	-	-
		310 3 XXX	M8/10	A 05 30	11 - 141	2005-07	-	-
		312 3 XXX	M10	A 05 35	11 - 219	2005-07	-	-
	BIS 2S Clamps with Lining Zinc plated	333 3 XXX	M8	A 05 60	12 - 49	2010-12	-	-
		334 3 XXX	M8/10	A 05 60	15 - 220	2010-12	-	-
		-	-	-	-	-	-	-
	BIS HD1501 BIS UltraProtect® 1000	3313 8 OXX	M8/10	A 10 04	15 - 64	2011-12a	15 - 64	2011-14
		3314 8 XXX	M10/12	A 10 04	65 - 227	2011-12a	65 - 227	2011-14
		3316 8 XXX	M16	A 10 06	159 - 509	2011-12a	159 - 227	2011-14
		3317 8 XXX	G½"	A 10 09	15 - 509	2011-12a	15 - 227	2011-14
	BISMAT® 5000 Zinc plated	348 3 OXX	M8	A 25 05	16 - 50	2010-24	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
	BIS Bifix® 5000 Zinc plated	348 3 OXX	M8	A 25 10	63 - 75	2005-11	-	-
		348 3 XXX	M10	A 25 10	90 - 110	2005-11	-	-
		-	-	-	-	-	-	-
	BIS Bifix® 300 Zinc plated	301 3 OXX	M8	B 05 05	15 - 76	2005-06	-	-
		302 3 XXX	M10	B 05 15	18 - 219	2005-06	-	-
		-	-	-	-	-	-	-
	BIS 2S Clamps Zinc plated	330 3 XXX	M8	B 05 25	15 - 169	2010-12	-	-
		-	-	-	-	-	-	-
		-	-	-	-	-	-	-
	BIS HD500 BIS UltraProtect® 1000	3303 8 OXX	M8/10	B 10 04	15 - 71	2011-13a	15 - 71	2011-05
		3304 8 XXX	M10/12	B 10 04	72 - 227	2011-13a	72 - 227	2011-05
		3306 8 XXX	M16	B 10 06	159 - 509	2011-13a	-	-
		3307 8 XXX	G½"	B 10 09	15 - 509	2011-13a	15 - 227	2011-05
	BIS Bifix® 300 SSt. Stainless Steel	301 7 XXX	M8	M 10 05	72 - 118	2004-09	-	-
		302 7 XXX	M10	M 10 05	62 - 219	2004-09	-	-
		-	-	-	-	-	-	-

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.

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

												
				Cert. No. 2010-23	Cert. No. 2011-09							
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)
337 3 XXX	15 - 35	M8	A 05 05	500	230	24	100	27	-	-	-	-
337 3 XXX	40 - 63	M8	A 05 05	700	360	26	190	26	-	-	-	-
337 4 XXX	15 - 35	M8/10	A 05 05	500	230	24	100	27	-	-	-	-
337 4 XXX	40 - 63	M8/10	A 05 05	700	360	26	190	26	-	-	-	-
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. 2010-22	Cert. No. 2011-10							
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)
341 3 OXX	15 - 35	M8	A 05 10	600	250	21	100	23	-	-	-	-
341 3 OXX	40 - 63	M8	A 05 10	800	370	24	160	29	-	-	-	-
340 3 XXX	15 - 35	M8/10	A 05 10	600	250	21	100	23	-	-	-	-
340 3 XXX	40 - 63	M8/10	A 05 10	800	370	24	160	29	-	-	-	-
340 3 XXX	57 - 80	M8/10	A 05 15	520	460	29	250	42	-	-	-	-
340 3 XXX	83 - 114	M8/10	A 05 15	935	720	36	340	50	-	-	-	-
340 3 XXX	116 - 141	M8/10	A 05 15	935	-	-	-	-	-	-	-	-

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. 2005-08	Cert. No. 2011-11							
Part No.	Ø (mm)	Connec- tion 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)
341 4 0XX	15 - 35	M8	A 05 20	600	250	21	100	23	-	-	-	-
341 4 0XX	40 - 63	M8	A 05 20	800	370	24	160	29	-	-	-	-
340 4 XXX	15 - 35	M8/10	A 05 20	600	250	21	100	23	-	-	-	-
340 4 XXX	40 - 63	M8/10	A 05 20	800	370	24	160	29	-	-	-	-
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.												


BIS Bifix® 1301

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)
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.				


BIS Bifix® 1301 'S'

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)
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.				

BIS 2S Clamps with Lining

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

				
				Cert. No. 2010-12
				RAL-GZ 655/B
				F0
Part No.	Ø (mm)	Connection nut	Catalogue page	$F_{a,z}$ (N)
333 3 0XX	12 - 49	M8	A 05 60	220
334 3 XXX	15 - 80	M8/10	A 05 60	220
334 3 XXX	81 - 91	M8/10	A 05 60	430
334 3 XXX	101 - 139	M8/10	A 05 60	750
334 3 XXX	159 - 220	M8/10	A 05 60	1,220
<p>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.</p> <p>According to the RAL requirements, the test results from above mentioned RAL certified articles are monitored by an independent test institute.</p>				

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)	Connec- tion 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 0XX	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.

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

												
				Cert. No. 2010-24	Cert. No. not yet available							
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)
348 3 OXX	16 - 32	M8	A 25 05	350	250	19	-	-	-	-	-	-
348 3 OXX	40 - 50	M8	A 25 05	420	230	13	-	-	-	-	-	-
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.												


BIS Bifix® 5000

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

				
				Cert. No. 2005-11
				RAL-GZ 655/B
				F0
Part No.	Ø (mm)	Connection nut	Catalogue page	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
<p>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.</p> <p>According to the RAL requirements, the test results from above mentioned RAL certified articles are monitored by an independent test institute.</p>				


BIS Bifix® 300

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

				 Cert. No. 2005-06
				RAL-GZ 655/B
				F0
Part No.	Ø (mm)	Connection nut	Catalogue page	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.				



BIS 2S Clamps

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

				
				Cert. No. 2010-12
Part No.	\emptyset (mm)	Connection nut	Catalogue page	RAL-GZ 655/B
				F0
				$F_{a,z}$ (N)
330 3 XXX	15 - 41	M8/10	B 05 25	1,110
330 3 XXX	41 - 68	M8/10	B 05 25	1,240
330 3 XXX	75 - 105	M8/10	B 05 25	1,470
330 3 XXX	106 - 169	M8/10	B 05 25	1,800
<p>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.</p> <p>According to the RAL requirements, the test results from above mentioned RAL certified articles are monitored by an independent test institute.</p>				


BIS 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 XXX	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.													

BIS Bifix® 300 SSt.

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.				