

Code	Description	Size	Colour
21423	Gorilla Boltfix Anchoring Adhesive	300ml	Grey (when mixed)

1. Description

Bison Boltfix Anchoring Adhesive is a rapid curing 2 part chemical anchoring system based on epoxy acrylate. Bison Boltfix Anchoring Adhesive is styrene free. It is suitable for exterior applications.

2. Characteristics

- Styrene free (low odour)
- Fast Cure time
- 100% waterproof
- Wide application area, even in wet drill holes, under water and at low temperatures

3. Technical Data

Base:	Vinylester Styrene Free		
Consistency:	Stable paste		
Curing System:	Chemical Reaction		
	Temperature (1)	Start	Full Cure (2)
(1) Cartridge Temperature = 15°C	≥ -10°C	90 min	24 h
(2) Curing time on Dry Surface (20°C/65%R.H.)	≥ -5°C	90 min	14 h
(x 2 on any wet surface)	≥ 0°C	45 min	7 h
	≥ 5°C	25 min	2 h
	≥ 10°C	15 min	80 min
	≥ 20°C	6 min	45 min
	≥ 30°C	4 min	25 min
	≥ 35°C	2 min	20 min
	≥ 40°C	1.5 min	15 min
Minimum application temperature of the cartridge:	+15°C to +30°C		
Mixing Ratio:	10 : 1		
Specific Gravity:	1.74g/cm ³		
Storage:	Between +5°C to +25°C, avoid direct sunlight		
VOC (%)	<3%		
VOC (g/litre)	<50		

*This varies according to ambient conditions such as temperature, humidity, substrate etc

4. Applications

A chemical anchor for bolts, studs and rods:

- Concrete – standard, aerated hollow block (with sleeve)
- Fixing hand rails and other steel structures
- Mortar repair
- Can be used to anchor in wet concrete (20% load reduction applies)

5. Packaging

- 300ml cartridge

6. Shelf Life

12 months in unopened packaging in a dry and cool storage place at temperatures between +5°C and +25°C.

7. Product Features

- Medium and heavy duty load application
- Quick curing
- Suitable for vertical and overhead application
- Two nozzles with each cartridge
- Cartridge can be used at a later date by cleaning and resealing

8. Application Instructions

Surfaces

Type:	All usual porous building substrates, poor adhesion to smooth non-porous materials.
State:	Clean, dry, free of dust and grease.
Preparation:	Before Cure: Wipe off excess and clean using white spirits or Gorilla Solvent cleaner. After Cure: Let fully cure, remove mechanically.
Repair	with Gorilla Bolt Fix

Instructions for Use

- Drill hole at recommended depth
- Clean drill hole with brush and air pump thoroughly
- Screw static mixer onto cartridge
- Dispense the first 10 cm of the product to waste (on piece of cardboard) until an even colour (dark grey) is achieved, and the product is well mixed
- Solid stone: fill the drill hole from bottom up. Hollow brick: insert sleeve and fill it bottom up, so that the resin is pressed through the tiny holes of the sleeve
- Insert anchoring rod with twisting left-right motion
- Inspect the drill hole for adequate filling
- Observe hardening time. Don't move the anchoring rod during curing
- Leave the excess of product to cure as well. Remove it mechanically with hammer and chisel once cured
- Install component, applying the right torque

Due to the range of substrates on the market recommend preliminary compatibility tests prior to commencement of application.

Note: There is a risk of staining on porous substrates such as natural stone. On such substrates a preliminary compatibility test is recommended.

9. Cautions

- If gel time expires use spare static mixer
- Do not shorten or cut nozzle
- Do not apply to uncured concrete
- Diamond coned holes will require roughening
- Ensure hole is free of debris/ contaminants prior to application of Gorilla Boltfix®
- Do follow the specification detail outlined in charts 1–7

Chart 1: Anchor Size/Hole Size

Anchor Size	Hole Diameter	Hole Depth	Safety Haul Strength
10 mm	12 mm	90 mm	1632 kgf
12 mm	14 mm	120 mm	2874 kgf
16 mm	18 mm	145 mm	4566 kgf
20 mm	22 mm	170 mm	6704 kgf

Chart 2: Curing Time Table

Temperature (°C)	Gelling Time	Full Curing Time
0-5		4hr
5-10	16min.	3hr
10-20	12min.	2hr
20-30	8min.	60min.
30-40	3min.	30min.

Full cure is achieved after 24 hours. Kindly reminding temperature below 15°C the mortar must be conditioned to a minimum of 15°C

Chart 3: Solid Substrate Rebar Installation Details

Pressure		Destroy Haul Strength (Kgf/KN)		Safety Haul Strength (Kgf/KN)		Working Standard (mm)	
Concrete Strength		4,000 psi	280 kg/cm2	4,000 psi	280kg/cm2	Hole Diameter	Hole Depth
Rebar No.	#3 (Φ10)	3,540	35.8	1,180	11.9	13	90
	#4 (Φ 13)	5,480	55.4	1,827	18.5	16	120
	#5 (Φ 16)	9,060	91.5	3,020	30.5	20	145
	#6 (Φ 19)	14,150	142.9	4,717	47.6	25	170
	#7 (Φ 22)	18,630	188.2	6,210	62.7	28	200
	#8 (Φ 25)	23,195	234.3	7,732	78.1	32	225
	#9 (Φ 29)	25,340	256.0	8,447	85.3	37	250
	#10 (Φ 32)	32,120	324.4	10,707	108.1	40	290

Remarks: 1. Concrete Strength f_c' : 280kg/cm2 (4,000 psi)
2. Rebar Strength: #3~#5 f_y : 2,800 kgf/cm2, #6~#11 f_y = 4,200 kgf/cm2

EDGE DISTANCE REDUCTION FACTOR								
TENSILE LOAD								
EDGE DISTANCE(MM)	REBAR							
	CONCRETE 4000psi/27.5Mpa							
	#3(Φ10)	#4(Φ12)	#5(Φ16)	#6(Φ20)	#7(Φ22)	#8(Φ25)	#9(Φ29)	#10(Φ30)
50	0.66							
60	0.74							
70	0.84		0.62					
80	0.89	0.71	0.67					
90	1.00	0.74	0.74	0.64				
100		0.84	0.81	0.66	0.63			
110		0.94	0.87	0.72	0.66			
120		1.00	0.94	0.74	0.69	0.62		
140			1.00	0.83	0.74	0.68		
160				0.94	0.87	0.74	0.62	
180				1.00	0.94	0.84	0.66	0.66
200					1.00	0.87	0.78	0.64
220						0.94	0.84	0.74
240						1.00	0.95	0.82
260							1.00	0.85
280								0.93
300								1.00

Note: The required specification(s) offered in this report are for reference only. The conformity judgement is at the Applicant's final verdict.

Chart 5: Solid Substrate Thread Rod Installation Details

Pressure		Destroy Haul Strength (Kgf/KN)		Safety Haul Strength (Kgf/KN)		Working Standard (mm)	
Concrete Strength		4,000 psi	280 kg/cm2	4,000 psi	280kg/cm2	Hole Diameter	Hole Depth
Thread Rod No.	M8	2,550	25.8	850	8.6	10	80
	M10	3,455	34.9	1,152	11.6	13	90
	M12	5,403	54.6	1,801	18.2	16	120
	M16	6,303	63.7	2,101	21.2	20	145
	M20	8,104	81.9	2,701	27.3	25	170
	M24	15,655	158.1	5,218	52.7	28	210
	M30	31,290	316.1	10,430	105.4	35	270
M36	44,300	447.5	17,767	149.2	40	330	

Chart 6: Thread Rod Edge Distances and Testing

SPACING REDUCTION FACTOR								
TENSILE LOAD								
EDGE DISTANCE(MM)	THREAD ROD							
	CONCRETE 4000psi/27.5Mpa							
	M8	M10	M12	M16	M20	M24	M30	M36
50	0.66							
60	0.76							
70	0.84		0.62					
80	0.91	0.71	0.67					
90	1.00	0.76	0.74	0.64				
100		0.84	0.81	0.64	0.62			
110		0.94	0.87	0.70	0.65			
120		1.00	0.94	0.74	0.70	0.62		
140			1.00	0.81	0.74	0.66		
160				0.94	0.87	0.75	0.62	
180				1.00	0.94	0.86	0.66	0.64
200					1.00	0.87	0.78	0.66
220						0.94	0.82	0.74
240						1.00	0.93	0.82
260							1.00	0.84
280								0.93
300								1.00

Note: The required specification(s) offered in this report are for reference only. The conformity judgement is at the Applicant's final verdict.

Chart 7: Fixings per Cartridge

Anchor Size	Hole Diameter (mm)	Hole Depth (mm)	Number of Fixings			
			235ML	345ML	360ML	380ML
M8	10	80	55	85	87	95
M10	12	90	36	56	58	63
M12	14	110	22	34	35	38
M16	18	125	11	17	17	19
M20	24	170	5	7	8	8
M24	28	210	3	4	5	5
M30	35	270	1	2	2	2
M36	40	330	1	1	1	2

Note: Based on continuous installation without interruptions or nozzle changes. Provided as a guide and will vary with temperature.

Warning: Product has limitations. Please ensure when using this product that you read the instructions carefully. Holdfast recommends to test prior due to the diversity of substrates and applications that are out of Holdfast's control. Holdfast cannot accept accountability for adverse results.

10. Health and Safety Recommendation

- Apply the usual industrial hygiene.
- Please refer to MSDS for more detailed information

Remark

*The directives and data contained in this documentation is provided in good faith and accurately reflect Soudal's knowledge when its products are properly stored, handled and applied under normal conditions in accordance with Soudal's recommendations. In practice, the diversity of the materials, substrates, environments, site conditions, product storage, handling and application are such that no warranty can be given in respect to the merchantability or fit for purpose, of any product. All users must determine the product suitability for their purposes through testing. This technical data sheet and product properties may change without notice so users, suppliers and retailers of Soudal products should always check that the data sheets they have are the latest. To the maximum extent permitted by law, Soudal disclaims all warranties in relation to either the manufacture, storage and end use of the product. All orders are accepted subject to our current terms of trade. **If any clarification is required, please contact Holdfast Technical Services or email sales@soudal.co.nz.***

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