Data Specification Sheet

MASON MATE®

Epoxy Acrylate Styrene Free Resin

Product Group 0868

- Non-flammable
- Very low odour
- High chemical resistance
- Suitable for close edge applications
- Suitable for use in concrete, brickwork, stone & hollow structures
- Suitable for fixing wall ties, starter bars, studs, bolts & large screws
- Available in all cartridge sizes

Stud Data

		M8	M10	M12	M16	M20	M24	M30
Hole Diameter in Concrete	mm	10	12	14	18	24	28	35
Hole Diameter in Fixture	mm	9	11	13	17	22	26	33
Std. Embedment in Concrete	mm	80	90	110	125	170	210	280
Recommended Torque	Nm	11	22	38	95	170	260	480

Hardening Time

Base Material Temp.	(°C)	25	15	5	-5
Gel Time	mins	3	6	12	50
Min. Loading Time	mins	30	35	50	90

Specification Data - *Performance Data at Standard Embedment Depth*

		M8	M10	M12	M16	M20	M24	M30
Characteristic Resistance-Tension (Ng)	kN	22.2	36.6	50.5	79.0	101.3	136.6	237.1
Characteristic Resistance - Shear (Vg)	kN	10.1	15.6	23.1	41.8	66.8	95.7	123.0
Design Resistance - Tension (Ng)	kN	10.2	18.1	24.7	38.8	49.7	64.3	115.3
Design Resistance - Shear (Vg)	kN	8.1	12.5	18.5	33.5	53.4	76.6	97.0
Recommended Load - Tension (Ng)	kN	7.3	13.0	17.7	27.8	35.5	46.0	82.4
Recommended Load - Shear (Vg)	kN	5.8	8.9	13.2	23.9	38.2	54.7	69.3
Edge Distance - Tension (C)	mm	80	90	11	130	150	190	300
Edge Distance - Shear (C)	mm	100	130	150	170	190	240	350
Characteristic Spacing	mm	100	130	150	170	210	240	350

Available from:

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The full characteristic edge and spacing distances shown in the table above are the minimum allowable for the quoted design resistance or recommended load, depending on the design method used. Where these dimensions are not achievable, the appropriate reduction factor/s from the followng tables must be applied to the design resistance or recommended load. Choose the required bolt diameter across the top of the appropriate table and read down the left hand column until actual edge or spacing distance is found. Read off the reduction factor where the two lines intersect (interpolate as required). Multiply this factor by the design resistance or recommended load quoted in the table. On the occasion that multiple close edge and / spacing distances occur, the appropriate reduction factors must be applied.

Edge Distance (Concrete)

Edge (mm)	M8	M10	M12	M16	M20	M24	M8	M10	M12	M16	M20	M24
Tensile: Edge Reduction Factors							**Shear: Edge Reduction Factors**					
50	0.77						0.50					
60	0.85	0.80					0.60	0.50				
70	0.92	0.87	0.78				0.70	0.58	0.50			
80	1.0	0.93	0.84				0.80	0.66	0.57			
90		1.0	0.89	0.82			0.90	0.75	0.64	0.56		
100			0.95	0.86	0.80		1.0	0.83	0.71	0.62	0.56	
110			1.0	0.91	0.84	0.77		0.92	0.78	0.69	0.61	0.50
130				1.0	0.92	0.83		1.0	0.92	0.81	0.72	0.59
150					1.0	0.90			1.0	0.94	0.83	0.68
170						0.97				1.0	0.94	0.77
190						1.0					1.0	0.86
210												0.95
240												1.0

Spacing (Concrete)

Spacing (mm)	M8	M10	M12	M16	M20	M24
Tensile & Shear Reduction Factors						
50	0.80					
60	0.84	0.80				
70	0.88	0.83	0.80			
80	0.92	0.87	0.83			
90	0.96	0.90	0.86	0.81		
100	1.0	0.93	0.88	0.84	0.80	
110		0.97	0.91	0.86	0.82	0.79
130		1.0	0.97	0.91	0.86	0.82
150			1.0	0.95	0.90	0.85
170				1.0	0.94	0.88
190					0.98	0.92
210					1.0	0.95
240						1.0

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Performance Data for Reinforcement Bars

Re Bar Dia. (mm)	Hole Dia.	Design Resistance (kN)																						Embed. Depth to fail Re-Bar
8	12	11.4	14.2	17.1	19.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	21.9	164
10	14		15.9	19.1	22.3	25.4	28.6	31.8	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	34.2	230
12	16			20.9	24.4	27.9	31.3	34.8	38.3	41.8	45.3	48.8	49.2	49.2	49.2	49.2	49.2	49.2	49.2	49.2	49.2	49.2	49.2	301
14	18				26.3	30.1	33.9	37.6	41.4	45.1	48.9	52.7	56.4	60.2	63.9	66.9	66.9	66.9	66.9	66.9	66.9	66.9	66.9	379
16	22					32.2	36.2	40.2	44.2	48.3	52.3	56.3	60.3	64.3	68.4	72.4	76.4	80.4	84.4	87.4	87.4	87.4	87.4	464
Depth (mm)		80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	
20	28	45.0	50.6	56.2	61.8	67.4	78.7	89.9	101	112	124	135	137	137	137	137	137	137	137	137	137	137	137	648
25	32			60.9	67.0	73.0	85.2	97.4	110	122	134	146	170	195	214	214	214	214	214	214	214	214	214	937
32	40					80.0	93.3	107	120	133	147	160	187	213	240	267	293	320	347	350	350	350	350	1406
40	50							115	130	144	159	173	202	231	259	288	317	346	375	403	461	519	546	2037
Depth (mm)		200	225	250	275	300	350	400	450	500	550	600	700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	

Re Bar Dia. (mm)	Hole Dia.	Recommended Load (kN)																						Embed. Depth to fail Re-Bar
8	12	7.6	9.5	11.4	13.3	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	164
10	14		10.6	12.7	14.9	16.9	19.1	21.2	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	230
12	16			13.9	16.3	18.6	20.9	23.2	25.5	27.9	30.2	32.5	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	301
14	18				17.5	20.1	22.6	25.1	27.6	30.1	32.6	35.1	37.6	40.1	42.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	379
16	22					21.5	24.1	26.8	29.5	32.2	34.9	37.5	40.2	42.9	45.6	48.3	50.9	53.6	56.3	58.3	58.3	58.3	58.3	464
Depth (mm)		80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	420	440	460	480	500	
20	28	30	33.7	37.5	41.2	44.9	52.5	59.9	67.5	74.9	82.4	89.9	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	648
25	32			40.6	44.7	48.7	56.8	64.9	73.1	81.1	89	97	114	130	142	142	142	142	142	142	142	142	142	937
32	40					53.3	62.2	71.1	80.0	89	98	107	124	142	160	178	195	213	231	233	233	233	233	1406
40	50							76.8	86.4	96	106	115	134	154	173	192	211	230	250	269	307	346	364	2037
Depth (mm)		200	225	250	275	300	350	400	450	500	550	600	700	800	900	1000	1100	1200	1300	1500	1700	1900	2100	

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