

# Technical data sheet

**FRUL  
SIDER**

**SIMPSON  
StrongTie**

FM 753 evo

## Heavy Duty Wedge Anchor

Heavy-duty wedge anchor for the medium load range, in sizes M6 - M20 for anchoring in non-cracked concrete C20/25 - C50/60.

### Features

#### Material

- Cold formed carbon steel body with special geometry clip

#### Benefits

- Wide range
- Easy installation
- Versatile
- Cold forged anchor body
- Increased thickness of three expander segments
- Six teeth and anti-slip ridge to prevent slip during tightening

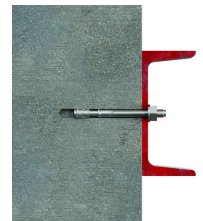
### Applications

#### Applications

- Railings
- Metal and wood carpentry
- Facades

#### Suitable for

- Non-cracked concrete
- Solid stone



Fixation de structure bois



Zoom de la pointe



Fixation de structure métallique



FM 753 evo  
**Heavy Duty Wedge Anchor**



## Technical Data

## FM 753 evo Heavy Duty Wedge Anchor

### Dimensions

References	Product reference	Type [d x L]	ID <sup>1)</sup>	Thread length	Fixture thickness [t <sub>fix</sub> ]	Hole diameter [d <sub>0</sub> ]	Minimum hole depth [h <sub>1</sub> ]	Embedment depth [h <sub>ef</sub> ]	Hole diameter in fixing element [d <sub>f</sub> ]	Min. support thickness [h <sub>min</sub> ]	Torque [T <sub>inst</sub> ]
75340B0604800	FM 753 evo	M6x48 <sup>*/**</sup>	A	18	3	6	45	30	7	90	8
75340B0606500	FM 753 evo	M6x65	B	30	10	6	55	40		100	8
75340B0608500	FM 753 evo	M6x85	C	40	30	6	55	40		100	8
75340B0610000	FM 753 evo	M6x100	D	50	45	6	55	40		100	8
75340B0805300	FM 753 evo	M8x53 <sup>*/**</sup>	A	20	5	8	50	30	9	90	15
75340B0806800	FM 753 evo	M8x68	B	40	5	8	65	45		100	15
75340B0807300	FM 753 evo	M8x73	C	45	10	8	65	45		100	15
75340B0808300	FM 753 evo	M8x83	D	45	20	8	65	45		100	15
75340B0809300	FM 753 evo	M8x93	E	50	30	8	65	45		100	15
75340B0810300	FM 753 evo	M8x103	F	50	40	8	65	45		100	15
75340B0811300	FM 753 evo	M8x113	G	60	50	8	65	45		100	15
75340B0813300	FM 753 evo	M8x133	H	85	70	8	65	45		100	15
75340B0816300	FM 753 evo	M8x163	I	100	100	8	65	45		100	15
75340B1006300	FM 753 evo	M10x63 <sup>*/**</sup>	A	25	5	10	55	35		12	90
75340B1007800	FM 753 evo	M10x78	B	40	5	10	70	50	100		30
75340B1008300	FM 753 evo	M10x83	C	40	10	10	70	50	100		30
75340B1009300	FM 753 evo	M10x93	D	50	20	10	70	50	100		30
75340B1010300	FM 753 evo	M10x103	E	50	30	10	70	50	100		30
75340B1011300	FM 753 evo	M10x113	F	60	40	10	70	50	100		30
75340B1012300	FM 753 evo	M10x123	G	60	50	10	70	50	100		30
75340B1014300	FM 753 evo	M10x143	H	70	70	10	70	50	100		30
75340B1017300	FM 753 evo	M10x173	I	80	100	10	70	50	100		30
75340B1021300	FM 753 evo	M10x213	L	100	140	10	70	50	100		30

\* Anchors with reduced embedment depths

\*\* Not covered by CE certification

<sup>1)</sup> Ident. mark, product length

# Technical data sheet



FM 753 evo

## Heavy Duty Wedge Anchor

References	Product reference	Type [d x L]	ID <sup>1)</sup>	Thread length	Fixture thickness [t <sub>fix</sub> ]	Hole diameter [d <sub>o</sub> ]	Minimum hole depth [h <sub>1</sub> ]	Embedment depth [h <sub>ef</sub> ]	Hole diameter in fixing element [d <sub>f</sub> ]	Min. support thickness [h <sub>min</sub> ]	Torque [T <sub>inst</sub> ]
75340B1208500	FM 753 evo	M12x85*/**	A	40	5	12	75	50	14	120	50
75340B1210400	FM 753 evo	M12x104	B	60	5	12	90	65		130	50
75340B1210900	FM 753 evo	M12x109	C	60	10	12	90	65		130	50
75340B1211900	FM 753 evo	M12x119	D	70	20	12	90	65		130	50
75340B1212900	FM 753 evo	M12x129	E	70	30	12	90	65		130	50
75340B1213900	FM 753 evo	M12x139	F	80	40	12	90	65		130	50
75340B1214900	FM 753 evo	M12x149	G	100	50	12	90	65		130	50
75340B1217900	FM 753 evo	M12x179	H	110	80	12	90	65		130	50
75340B1219900	FM 753 evo	M12x199	I	110	100	12	90	65		130	50
75340B1221900	FM 753 evo	M12x219	L	125	120	12	90	65		130	50
75340B1223900	FM 753 evo	M12x239	M	125	140	12	90	65		130	50
75340B1225900	FM 753 evo	M12x259	N	125	160	12	90	65		130	50
75340B1226900	FM 753 evo	M12x269	O	135	170	12	90	65		130	50
75340B1229900	FM 753 evo	M12x299	P	155	200	12	90	65		130	50
75340B1231900	FM 753 evo	M12x319	Q	155	220	12	90	65		130	50
75340B1233900	FM 753 evo	M12x339	R	155	240	12	90	65	130	50	
75340B1236900	FM 753 evo	M12x369	S	155	270	12	90	65	130	50	
75340B1611000	FM 753 evo	M16x110*/**	A	50	15	16	89	59	18	140	100
75340B1613100	FM 753 evo	M16x131	B	65	10	16	110	80		160	100
75340B1615100	FM 753 evo	M16x151	C	80	30	16	110	80		160	100
75340B1617100	FM 753 evo	M16x171	D	80	50	16	110	80		160	100
75340B1620100	FM 753 evo	M16x201	E	100	80	16	110	80		160	100
75340B1622100	FM 753 evo	M16x221	F	100	100	16	110	80		160	100
75340B1624100	FM 753 evo	M16x241	G	110	120	16	110	80		160	100
75340B1626100	FM 753 evo	M16x261	H	110	140	16	110	80		160	100

\* Anchors with reduced embedment depths

\*\* Not covered by CE certification

<sup>1)</sup> Ident. mark, product length

# Technical data sheet



FM 753 evo

## Heavy Duty Wedge Anchor

References	Product reference	Type [d x L]	ID <sup>1)</sup>	Thread length	Fixture thickness [t <sub>fix</sub> ]	Hole diameter [d <sub>o</sub> ]	Minimum hole depth [h <sub>1</sub> ]	Embedment depth [h <sub>ef</sub> ]	Hole diameter in fixing element [d <sub>f</sub> ]	Min. support thickness [h <sub>min</sub> ]	Torque [T <sub>inst</sub> ]
75340B1628100	FM 753 evo	M16x281	I	125	160	16	110	80		160	100
75340B1632100	FM 753 evo	M16x321	L	150	200	16	110	80		160	100
75340B2017300	FM 753 evo	M20x173**	B	100	30	20	130	100	22	200	200
75340B2022300	FM 753 evo	M20x223**	D	125	80	20	130	100		200	200

\* Anchors with reduced embedment depths

\*\* Not covered by CE certification

<sup>1)</sup> Ident. mark, product length

## FM 753 evo Heavy Duty Wedge Anchor

Design capacities - single anchor - no edge distances

References	Type [d x L]	Design capacity - Non-cracked concrete <sup>(3)</sup> [kN]								Bending moment MRd [Nm]
		Tension - NRd <sup>(1)</sup>				Shear - VRd <sup>(1-2)</sup> [kN]				
		C20/25	C30/37	C40/50	C50/60	C20/25	C30/37	C40/50	C50/60	
75340B0604800	M6x48*/**	4	4	4	4.1	5.1	5.1	5.1	5.1	7.3
75340B0606500	M6x65	4	4	4	4.1	5.1	5.1	5.1	5.1	7.3
75340B0608500	M6x85	4	4	4	4.1	5.1	5.1	5.1	5.1	7.3
75340B0610000	M6x100	4	4	4	4.1	5.1	5.1	5.1	5.1	7.3
75340B0805300	M8x53*/**	8	8.3	8.5	8.7	7.9	7.9	7.9	7.9	21.5
75340B0806800	M8x68	8	8.3	8.5	8.7	7.9	7.9	7.9	7.9	21.5
75340B0807300	M8x73	8	8.3	8.5	8.7	7.9	7.9	7.9	7.9	21.5
75340B0808300	M8x83	8	8.3	8.5	8.7	7.9	7.9	7.9	7.9	21.5
75340B0809300	M8x93	8	8.3	8.5	8.7	7.9	7.9	7.9	7.9	21.5
75340B0810300	M8x103	8	8.3	8.5	8.7	7.9	7.9	7.9	7.9	21.5
75340B0811300	M8x113	8	8.3	8.5	8.7	7.9	7.9	7.9	7.9	21.5
75340B0813300	M8x133	8	8.3	8.5	8.7	7.9	7.9	7.9	7.9	21.5
75340B0816300	M8x163	8	8.3	8.5	8.7	7.9	7.9	7.9	7.9	21.5
75340B1006300	M10x63*/**	11.6	14.2	16.4	18.3	11.6	11.6	11.6	11.6	37.3
75340B1007800	M10x78	11.6	14.2	16.4	18.3	11.6	11.6	11.6	11.6	37.3
75340B1008300	M10x83	11.6	14.2	16.4	18.3	11.6	11.6	11.6	11.6	37.3
75340B1009300	M10x93	11.6	14.2	16.4	18.3	11.6	11.6	11.6	11.6	37.3
75340B1010300	M10x103	11.6	14.2	16.4	18.3	11.6	11.6	11.6	11.6	37.3
75340B1011300	M10x113	11.6	14.2	16.4	18.3	11.6	11.6	11.6	11.6	37.3
75340B1012300	M10x123	11.6	14.2	16.4	18.3	11.6	11.6	11.6	11.6	37.3
75340B1014300	M10x143	11.6	14.2	16.4	18.3	11.6	11.6	11.6	11.6	37.3
75340B1017300	M10x173	11.6	14.2	16.4	18.3	11.6	11.6	11.6	11.6	37.3
75340B1021300	M10x213	11.6	14.2	16.4	18.3	11.6	11.6	11.6	11.6	37.3
75340B1208500	M12x85*/**	17.2	20.8	23.9	26.7	20.1	20.1	20.1	20.1	65.3
75340B1210400	M12x104	17.2	20.8	23.9	26.7	20.1	20.1	20.1	20.1	65.3
75340B1210900	M12x109	17.2	20.8	23.9	26.7	20.1	20.1	20.1	20.1	65.3
75340B1211900	M12x119	17.2	20.8	23.9	26.7	20.1	20.1	20.1	20.1	65.3
75340B1212900	M12x129	17.2	20.8	23.9	26.7	20.1	20.1	20.1	20.1	65.3
75340B1213900	M12x139	17.2	20.8	23.9	26.7	20.1	20.1	20.1	20.1	65.3
75340B1214900	M12x149	17.2	20.8	23.9	26.7	20.1	20.1	20.1	20.1	65.3
75340B1217900	M12x179	17.2	20.8	23.9	26.7	20.1	20.1	20.1	20.1	65.3
75340B1219900	M12x199	17.2	20.8	23.9	26.7	20.1	20.1	20.1	20.1	65.3
75340B1221900	M12x219	17.2	20.8	23.9	26.7	20.1	20.1	20.1	20.1	65.3
75340B1223900	M12x239	17.2	20.8	23.9	26.7	20.1	20.1	20.1	20.1	65.3
75340B1225900	M12x259	17.2	20.8	23.9	26.7	20.1	20.1	20.1	20.1	65.3
75340B1226900	M12x269	17.2	20.8	23.9	26.7	20.1	20.1	20.1	20.1	65.3

1. The design loads have been calculated using the partial safety factors for resistances stated in ETA-approval(s). The loading figures are valid for unreinforced concrete and reinforced concrete with a rebar spacing  $s \geq 15$  cm (any diameter) or with a rebar spacing  $s \geq 10$  cm, if the rebar diameter is 10mm or smaller.
2. The figures for shear are based on a single anchor without influence of concrete edges. For anchorages close to edges ( $c \leq \max [10 \text{ hef}; 60d]$ ) the concrete edge failure shall be checked per ETAG 001, Annex C, design method A.
3. Concrete is considered non-cracked when the tensile stress within the concrete is  $\sigma_L + \sigma_R \leq 0$ . In the absence of detailed verification  $\sigma_R = 3 \text{ N/mm}^2$  can be assumed ( $\sigma_L$  equals the tensile stress within the concrete induced by external loads, anchors loads included).

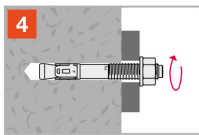
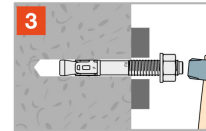
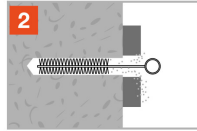
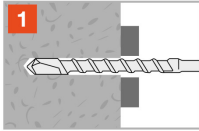
## FM 753 evo Heavy Duty Wedge Anchor

References	Type [d x L]	Design capacity - Non-cracked concrete <sup>(3)</sup> [kN]								Bending moment MRd [Nm]
		Tension - NRd <sup>(1)</sup>				Shear - VRd <sup>(1-2)</sup> [kN]				
		C20/25	C30/37	C40/50	C50/60	C20/25	C30/37	C40/50	C50/60	
75340B1229900	M12x299	17.2	20.8	23.9	26.7	20.1	20.1	20.1	20.1	65.3
75340B1231900	M12x319	17.2	20.8	23.9	26.7	20.1	20.1	20.1	20.1	65.3
75340B1233900	M12x339	17.2	20.8	23.9	26.7	20.1	20.1	20.1	20.1	65.3
75340B1236900	M12x369	17.2	20.8	23.9	26.7	20.1	20.1	20.1	20.1	65.3
75340B1611000	M16x110**	23.5	27	29.8	32.4	37.5	37.5	37.5	37.5	155.3
75340B1613100	M16x131	23.5	27	29.8	32.4	37.5	37.5	37.5	37.5	155.3
75340B1615100	M16x151	23.5	27	29.8	32.4	37.5	37.5	37.5	37.5	155.3
75340B1617100	M16x171	23.5	27	29.8	32.4	37.5	37.5	37.5	37.5	155.3
75340B1620100	M16x201	23.5	27	29.8	32.4	37.5	37.5	37.5	37.5	155.3
75340B1622100	M16x221	23.5	27	29.8	32.4	37.5	37.5	37.5	37.5	155.3
75340B1624100	M16x241	23.5	27	29.8	32.4	37.5	37.5	37.5	37.5	155.3
75340B1626100	M16x261	23.5	27	29.8	32.4	37.5	37.5	37.5	37.5	155.3
75340B1628100	M16x281	23.5	27	29.8	32.4	37.5	37.5	37.5	37.5	155.3
75340B1632100	M16x321	23.5	27	29.8	32.4	37.5	37.5	37.5	37.5	155.3
75340B2017300	M20x173**	27.9	19.9	19.9	19.9	37.4	37.4	37.4	37.4	-
75340B2022300	M20x223**	27.9	19.9	19.9	19.9	37.4	37.4	37.4	37.4	-

1. The design loads have been calculated using the partial safety factors for resistances stated in ETA-approval(s). The loading figures are valid for unreinforced concrete and reinforced concrete with a rebar spacing  $s \geq 15$  cm (any diameter) or with a rebar spacing  $s \geq 10$  cm, if the rebar diameter is 10mm or smaller.
2. The figures for shear are based on a single anchor without influence of concrete edges. For anchorages close to edges ( $c \leq \max [10 \text{ hef}; 60d]$ ) the concrete edge failure shall be checked per ETAG 001, Annex C, design method A.
3. Concrete is considered non-cracked when the tensile stress within the concrete is  $\sigma_L + \sigma_R \leq 0$ . In the absence of detailed verification  $\sigma_R = 3 \text{ N/mm}^2$  can be assumed ( $\sigma_L$  equals the tensile stress within the concrete induced by external loads, anchors loads included).

FM 753 evo  
**Heavy Duty Wedge Anchor**

## Installation





## FM 753 evo Heavy Duty Wedge Anchor

### Spacing, Edge Distance and Member Thickness

References	Type [d x L]	Hole diameter [d <sub>o</sub> ]	Minimum hole depth [h <sub>1</sub> ]	Hole diameter in fixing element [d <sub>f</sub> ]	Wrench [SW]	Torque [T <sub>inst</sub> ]	Embedment depth [h <sub>ef</sub> ]	Min. support thickness [h <sub>min</sub> ]	Characteristic spacing <sup>(5)</sup> [S <sub>cr,N</sub> ] [mm]	Characteristic edge distance [C <sub>cr,N</sub> ] [r]
75340B0604800	M6x48*/**	6	45	7	10	8	30	90	120	60
75340B0606500	M6x65	6	55	7	10	8	40	100	120	60
75340B0608500	M6x85	6	55	7	10	8	40	100	120	60
75340B0610000	M6x100	6	55	7	10	8	40	100	120	60
75340B0805300	M8x53*/**	8	50	9	13	15	30	90	135	68
75340B0806800	M8x68	8	65	9	13	15	45	100	135	68
75340B0807300	M8x73	8	65	9	13	15	45	100	135	68
75340B0808300	M8x83	8	65	9	13	15	45	100	135	68
75340B0809300	M8x93	8	65	9	13	15	45	100	135	68
75340B0810300	M8x103	8	65	9	13	15	45	100	135	68
75340B0811300	M8x113	8	65	9	13	15	45	100	135	68
75340B0813300	M8x133	8	65	9	13	15	45	100	135	68
75340B0816300	M8x163	8	65	9	13	15	45	100	135	68
75340B1006300	M10x63*/**	10	55	12	17	30	35	90	150	75
75340B1007800	M10x78	10	70	12	17	30	50	100	150	75
75340B1008300	M10x83	10	70	12	17	30	50	100	150	75
75340B1009300	M10x93	10	70	12	17	30	50	100	150	75
75340B1010300	M10x103	10	70	12	17	30	50	100	150	75
75340B1011300	M10x113	10	70	12	17	30	50	100	150	75
75340B1012300	M10x123	10	70	12	17	30	50	100	150	75
75340B1014300	M10x143	10	70	12	17	30	50	100	150	75
75340B1017300	M10x173	10	70	12	17	30	50	100	150	75
75340B1021300	M10x213	10	70	12	17	30	50	100	150	75
75340B1208500	M12x85*/**	12	75	14	19	50	50	120	195	98
75340B1210400	M12x104	12	90	14	19	50	65	130	195	98
75340B1210900	M12x109	12	90	14	19	50	65	130	195	98
75340B1211900	M12x119	12	90	14	19	50	65	130	195	98
75340B1212900	M12x129	12	90	14	19	50	65	130	195	98
75340B1213900	M12x139	12	90	14	19	50	65	130	195	98
75340B1214900	M12x149	12	90	14	19	50	65	130	195	98
75340B1217900	M12x179	12	90	14	19	50	65	130	195	98
75340B1219900	M12x199	12	90	14	19	50	65	130	195	98
75340B1221900	M12x219	12	90	14	19	50	65	130	195	98
75340B1223900	M12x239	12	90	14	19	50	65	130	195	98
75340B1225900	M12x259	12	90	14	19	50	65	130	195	98
75340B1226900	M12x269	12	90	14	19	50	65	130	195	98
75340B1229900	M12x299	12	90	14	19	50	65	130	195	98
75340B1231900	M12x319	12	90	14	19	50	65	130	195	98
75340B1233900	M12x339	12	90	14	19	50	65	130	195	98
75340B1236900	M12x369	12	90	14	19	50	65	130	195	98
75340B1611000	M16x110*/**	16	89	18	24	100	59	140	240	120
75340B1613100	M16x131	16	110	18	24	100	80	160	240	120
75340B1615100	M16x151	16	110	18	24	100	80	160	240	120
75340B1617100	M16x171	16	110	18	24	100	80	160	240	120
75340B1620100	M16x201	16	110	18	24	100	80	160	240	120

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## FM 753 evo Heavy Duty Wedge Anchor

References	Type [d x L]	Hole diameter [d <sub>o</sub> ]	Minimum hole depth [h <sub>1</sub> ]	Hole diameter in fixing element [d <sub>f</sub> ]	Wrench [SW]	Torque [T <sub>inst</sub> ]	Embedment depth [h <sub>ep</sub> ]	Min. support thickness [h <sub>min</sub> ]	Characteristic spacing <sup>(5)</sup> [S <sub>cr,N</sub> ] [mm]	Characteristic edge distance [c <sub>cr,N</sub> ] [mm]
75340B1622100	M16x221	16	110	18	24	100	80	160	240	120
75340B1624100	M16x241	16	110	18	24	100	80	160	240	120
75340B1626100	M16x261	16	110	18	24	100	80	160	240	120
75340B1628100	M16x281	16	110	18	24	100	80	160	240	120
75340B1632100	M16x321	16	110	18	24	100	80	160	240	120
75340B2017300	M20x173**	20	130	22	30	200	100	200	300	150
75340B2022300	M20x223**	20	130	22	30	200	100	200	300	150

FM 753 evo  
Heavy Duty Wedge Anchor

