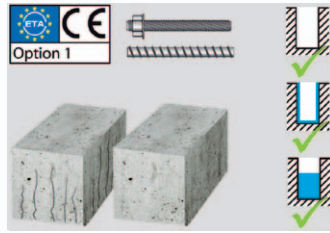


MIT600RE Pure Epoxy



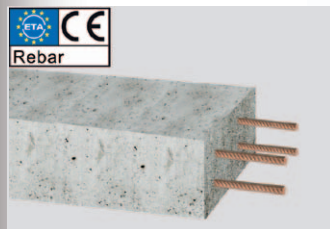
European Technical Approval

European Technical Approval
Option 1 for cracked and non-cracked concrete with anchor rod and with rebar used as anchor



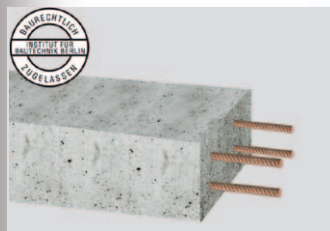
European Technical Approval

European Technical Approval
Option 7 for diamond drilled holes in non-cracked concrete



European Technical Approval

European Technical Approval for
post-installed rebar connections



DIBT Approval

German National Approval for
post-installed rebar connections



MIT60ORE Pure Epoxy



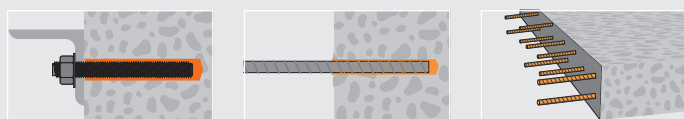
Features

- European Technical Approval Option 1 for cracked and non-cracked concrete with anchor rod and with rebar used as anchor
- European Technical Approval Option 7 for diamond drilled holes in non-cracked concrete
- European Technical Approval for post-installed rebar connections
- German National Approval for post-installed rebar connections
- ICC-ES Report ESR-3411
- Fire resistance test certification F30-F120
- Fire resistance test certification F30-F240 (Rebar)
- VOC free according to Swiss legislation and certified A+ according to DEVL 1101903D / DEVL 1104875A
- LEED - Test Report
- Certification for drinking water systems
- The anchor may also be used under seismic influence for performance category C1
- Application also in damp and water-filled drill holes
- Variable setting depth
- Long working time for filling of big and deep drill holes
- High loads
- Suitable for overhead fixings
- Shelf life: 24 months
- Colour of mortar: grey
- Indoor (zinc plated) and outdoor (stainless steel) applications



Applications

post-installed rebar connections, steel constructions, profiles, closing of ceilings, repair works



Temperatures

	≥ +5°C	≥ +10°C	≥ +20°C	≥ +30°C	≥ +40°C
Working time, in minutes (t_{gel})	120	90	30	20	12
Curing time, dry in hours (t_{cure})	50	30	10	6	4
Curing time, wet in hours (t_{cure})	100	60	20	12	8

Installation



Article code	Description	Languages	Content	Box content	Quantity per pallet
1710001	Cartridge incl. 1 mixer, in two parts	DE/GB	385	12	480

MIT60ORE Pure Epoxy, 385 ml cartridge

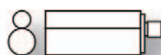


Article code	Description	Languages	Content	Box content	Quantity per pallet
1710010	Cartridge incl. 1 mixer, in two parts	DE/GB	585	12	480

MIT60ORE Pure Epoxy, 585 ml cartridge



MIT60ORE Pure Epoxy, 1400 ml cartridge



Article code	Description	Languages	Content	Box content	Quantity per pallet
1710012	Cartridge incl. 1 mixer, in two parts	DE/GB/FR/IT/PL	1400	5	200

MIT-K System-case



Article code	Content	For	Box content	Quantity per pallet
1710110	Drilling aid Piston plugs Infrared thermometer Brushes Brush measure Cleaning accessories	MIT-SE Plus MIT60ORE (REBAR)	1	20

MIT60ORE with MIT-S(r) and MIT-G(r) according to European Technical Approval 09/0340



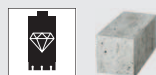
	Drilling hole \varnothing mm d_0	Effective anchorage depth min. mm h_{ef} min	Effective anchorage depth max. mm h_{ef} max	Drilling depth mm h_0	Usable length mm t_{fix}	Clearance hole in fixture mm d_f	Brush \varnothing mm d_b	Min. distance betw. anchors mm s_{min}	Min. edge distance mm c_{min}	Installation torque (Nm) T_{inst} max
Hammer drilling, M8	10	60	96	= hef	0 - 1500	9	12	40	40	10
Hammer drilling, M10	12	60	120	= hef	0 - 1500	12	14	50	50	20
Hammer drilling, M12	14	70	144	= hef	0 - 1500	14	16	60	60	40
Hammer drilling, M16	18	80	192	= hef	0 - 1500	18	20	80	80	80
Hammer drilling, M20	24	90	240	= hef	0 - 1500	22	26	100	100	120
Hammer drilling, M24	28	96	288	= hef	0 - 1500	26	30	120	120	160
Hammer drilling, M27	32	108	324	= hef	0 - 1500	30	34	135	135	180
Hammer drilling, M30	35	120	360	= hef	0 - 1500	33	37	150	150	200

MIT60ORE with rebar used as anchor according to European Technical Approval 09/0340



	Drilling hole \varnothing mm d_0	Effective anchorage depth min. mm h_{ef} min	Effective anchorage depth max. mm h_{ef} max	Drilling depth mm h_0	Brush \varnothing mm d_b	Min. distance betw. anchors mm s_{min}	Min. edge distance mm c_{min}
Hammer drilling, \varnothing 8	12	60	96	= hef	14	40	40
Hammer drilling, \varnothing 10	14	60	120	= hef	16	50	50
Hammer drilling, \varnothing 12	16	70	144	= hef	18	60	60
Hammer drilling, \varnothing 14	18	75	168	= hef	20	70	70
Hammer drilling, \varnothing 16	20	80	192	= hef	22	80	80
Hammer drilling, \varnothing 20	24	90	240	= hef	26	100	100
Hammer drilling, \varnothing 25	32	100	300	= hef	34	125	125
Hammer drilling, \varnothing 28	35	112	336	= hef	37	140	140
Hammer drilling, \varnothing 32	40	128	384	= hef	41.5	160	160

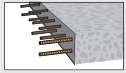
MIT60ORE with MIT-S(r) and MIT-G(r) according to European Technical Approval 12/0178



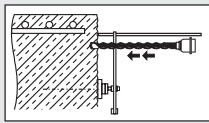
	Drilling hole \varnothing mm d_0	Effective anchorage depth min. mm h_{ef} min	Effective anchorage depth max. mm h_{ef} max	Drilling depth mm h_0	Usable length mm t_{fix}	Clearance hole in fixture mm d_f	Brush \varnothing mm d_b	Min. distance betw. anchors mm s_{min}	Min. edge distance mm c_{min}	Installation torque (Nm) T_{inst} max
Diamond drilling, M10	12	60	200	= hef	0 - 1500	12	14	50	50	20
Diamond drilling, M12	14	70	240	= hef	0 - 1500	14	16	60	60	40
Diamond drilling, M16	18	80	320	= hef	0 - 1500	18	20	80	80	80
Diamond drilling, M20	24	90	400	= hef	0 - 1500	22	26	100	100	120
Diamond drilling, M24	28	96	480	= hef	0 - 1500	26	30	120	120	160

MIT60ORE with rebar used as anchor according to European Technical Approval 12/0178


	Drilling hole \varnothing mm	Effective anchorage depth min. mm	Effective anchorage depth max. mm	Drilling depth mm	Brush \varnothing mm	Min. distance betw. anchors mm	Min. edge distance mm
	d_0	$h_{ef \text{ min}}$	$h_{ef \text{ max}}$	h_d	d_b	s_{min}	c_{min}
Diamond drilling, \varnothing 10	14	60	200	= hef	16	50	50
Diamond drilling, \varnothing 12	16	70	240	= hef	18	60	60
Diamond drilling, \varnothing 14	18	75	280	= hef	20	70	70
Diamond drilling, \varnothing 16	20	80	320	= hef	22	80	80
Diamond drilling, \varnothing 20	24	90	400	= hef	26	100	100
Diamond drilling, \varnothing 25	32	100	500	= hef	34	125	125

MIT60ORE for post-installed rebar connections according to European Technical Approval 12/0546


	Drilling hole \varnothing mm	Brush \varnothing mm	Minimum embedment depth mm	Minimum lap splice length mm	Maximum installation length mm	Minimum distance between bonded-in rebars mm	Maximum distance between bonded-in and existing rebars mm
	d_0	d_b	$h_{b \text{ min}}$	$l_{b \text{ min}}$	l_{max}		
\varnothing 8	12	14	113	200	1000	$\geq 5 d_s / \geq 50 \text{ mm}$	$\leq 4 d_s$
\varnothing 10	14	16	142	200	1000	$\geq 5 d_s / \geq 50 \text{ mm}$	$\leq 4 d_s$
\varnothing 12	16	18	170	200	1200	$\geq 5 d_s / \geq 50 \text{ mm}$	$\leq 4 d_s$
\varnothing 14	18	20	198	210	1400	$\geq 5 d_s / \geq 50 \text{ mm}$	$\leq 4 d_s$
\varnothing 16	20	22	227	240	1600	$\geq 5 d_s / \geq 50 \text{ mm}$	$\leq 4 d_s$
\varnothing 20	25	27	284	300	2000	$\geq 5 d_s / \geq 50 \text{ mm}$	$\leq 4 d_s$
\varnothing 22	28	30	312	330	2000	$\geq 5 d_s / \geq 50 \text{ mm}$	$\leq 4 d_s$
\varnothing 24	32	34	340	360	2000	$\geq 5 d_s / \geq 50 \text{ mm}$	$\leq 4 d_s$
\varnothing 25	32	34	354	375	2000	$\geq 5 d_s / \geq 50 \text{ mm}$	$\leq 4 d_s$

Drilling process


	Minimum concrete cover, without drilling aid	Minimum concrete cover, with drilling aid
Hammer drilling, < 25 mm	$30 \text{ mm} + 0.06 \times l_v \geq 2 d_s$	$30 \text{ mm} + 0.02 \times l_v \geq 2 d_s$
Hammer drilling, = 25 mm	$40 \text{ mm} + 0.06 \times l_v \geq 2 d_s$	$40 \text{ mm} + 0.02 \times l_v \geq 2 d_s$
Compressed air drilling, < 25 mm	$50 \text{ mm} + 0.08 \times l_v$	$50 \text{ mm} + 0.02 \times l_v$
Compressed air drilling, = 25 mm	$60 \text{ mm} + 0.08 \times l_v$	$60 \text{ mm} + 0.02 \times l_v$

Design Resistance of MIT 600 RE with Reinforcing Bars [kN]

Concrete Strength : C 20/25

Rebar Yield Strength : 460 N/mm²

Rebar Diameter	[mm]	8	10	12	14	16	20	25	28	32	36	40	
Drill hole diameter	[mm]	12	14	16	18	20	24	32	35	37	45	55	
Drilling Depth h _{ef} [mm]	60	11.7	13.0										
	70	13.7	16.4	16.4									
	80	15.6	19.5	20.1	20.1	20.1							
	90	17.6	22.0	24.0	24.0	24.0	24.0						
	100	19.5	24.4	27.2	28.1	28.1	28.1	28.1					
	120	20.1	29.3	32.7	36.9	36.9	36.9	36.9	36.9	36.9			
	130		31.4	35.4	41.3	41.6	41.6	41.6	41.6	41.6	41.6		
	140			38.1	44.5	46.5	46.5	46.5	46.5	46.5	46.5		
	150			40.8	47.6	50.3	51.5	51.5	51.5	51.5	51.5	51.5	
	160			43.6	50.8	53.6	56.8	56.8	56.8	56.8	56.8	56.8	
	170			45.2	54.0	57.0	61.0	62.2	62.2	62.2	62.2	62.2	
	180				57.2	60.3	64.6	67.8	67.8	67.8	67.8	67.8	
	190				60.4	63.7	68.2	73.5	73.5	73.5	73.5	73.5	
	200				61.6	67.0	71.8	79.4	79.4	79.4	79.4	79.4	
	210					70.4	75.4	85.4	85.4	85.4	85.4	85.4	
	220					73.7	79.0	90.5	91.5	91.5	91.5	91.5	
	240						80.4	86.2	98.7	104.3	104.3	104.3	104.3
	260							93.4	107.0	117.6	117.6	117.6	117.6
	280							100.5	115.2	129.0	131.4	131.4	131.4
	300							107.7	123.4	138.2	145.8	145.8	145.8
	320							114.9	131.6	147.4	160.6	160.6	160.6
	340							122.1	139.9	156.7	175.9	175.9	175.9
	360							125.7	148.1	165.9	189.6	191.6	191.6
	400								164.6	184.3	210.6	224.4	224.4
	420								172.8	193.5	221.2	241.5	241.5
	450								185.1	207.3	237.0	266.6	267.8
	480								196.3	221.2	252.8	284.4	295.0
	500									230.4	263.3	296.2	313.7
	520									239.6	273.8	308.1	332.7
	560									246.3	294.9	331.8	368.6
600										316.0	355.4	394.9	
640										321.7	379.1	421.3	
660											391.0	434.4	
680											402.8	447.6	
700											407.2	460.8	
720												473.9	
740												487.1	
760												500.3	
780												502.7	
Design strength of rebar	[kN]	20.1	31.4	45.2	61.6	80.4	125.7	196.3	246.3	321.7	407.2	502.7	

Loads apply to non cracked concrete only

The data are valid for single fixings without consideration of edge and anchor distances

Material safety factor $\gamma_m = 1.15$ has been considered

Loads apply to properly cleaned and dry holes and a short term /long term temperature of 40°C/24°C

Values in bold indicate concrete cone failure is decisive

Design Resistance of MIT 600 RE with Reinforcing Bars [kN]

Concrete Strength : C 25/30

Rebar Yield Strength : 460 N/mm²

Rebar Diameter	[mm]	8	10	12	14	16	20	25	28	32	36	40	
Drill hole diameter	[mm]	12	14	16	18	20	24	32	35	37	45	55	
Drilling Depth h _{ef} [mm]	60	12.0	14.3										
	70	14.0	17.4	18.0									
	80	16.0	19.9	22.0	22.0	22.0							
	90	17.9	22.4	25.0	26.2	26.2	26.2						
	100	19.9	24.9	27.8	30.7	30.7	30.7	30.7					
	120	20.1	29.9	33.3	38.9	40.4	40.4	40.4	40.4				
	130		31.4	36.1	42.1	44.4	45.6	45.6	45.6	45.6			
	140			38.9	45.4	47.9	50.9	50.9	50.9	50.9			
	150			41.7	48.6	51.3	54.9	56.5	56.5	56.5	56.5		
	160			44.4	51.8	54.7	58.6	62.2	62.2	62.2	62.2	62.2	
	170			45.2	55.1	58.1	62.3	68.1	68.1	68.1	68.1	68.1	
	180				58.3	61.5	65.9	74.2	74.2	74.2	74.2	74.2	
	190				61.6	64.9	69.6	79.7	80.5	80.5	80.5	80.5	
	200					68.4	73.2	83.9	86.9	86.9	86.9	86.9	
	210					71.8	76.9	88.1	93.5	93.5	93.5	93.5	
	220						75.2	80.6	92.3	100.3	100.3	100.3	100.3
	240						80.4	87.9	100.7	112.8	114.3	114.3	114.3
	260							95.2	109.1	122.2	128.8	128.8	128.8
	280							102.5	117.5	131.6	144.0	144.0	144.0
	300							109.9	125.9	141.0	159.7	159.7	159.7
	320							117.2	134.3	150.4	171.9	175.9	175.9
	340							124.5	142.7	159.8	182.6	192.7	192.7
	360							125.7	151.1	169.2	193.4	209.9	209.9
	400								167.9	188.0	214.8	241.7	245.9
	420								176.2	197.4	225.6	253.8	264.5
	450								188.8	211.5	241.7	271.9	293.4
	480								196.3	225.6	257.8	290.0	322.3
	500									235.0	268.6	302.1	335.7
520									244.4	279.3	314.2	349.1	
560									246.3	300.8	338.4	376.0	
600										321.7	362.6	402.8	
640											386.7	429.7	
660											398.8	443.1	
680											407.2	456.6	
700												470.0	
720												483.4	
740												496.8	
760												502.7	
Design strength of rebar	[kN]	20.1	31.4	45.2	61.6	80.4	125.7	196.3	246.3	321.7	407.2	502.7	

Loads apply to non cracked concrete only

The data are valid for single fixings without consideration of edge and anchor distances

Material safety factor $\gamma_m = 1.15$ has been considered

Loads apply to properly cleaned and dry holes and a short term /long term temperature of 40°C/24°C

Values in bold indicate concrete cone failure is decisive

Design Resistance of MIT 600 RE with Reinforcing Bars [kN]

Concrete Strength : C 30/37

Rebar Yield Strength : 460 N/mm²

Rebar Diameter	[mm]	8	10	12	14	16	20	25	28	32	36	40	
Drill hole diameter	[mm]	12	14	16	18	20	24	32	35	37	45	55	
Drilling Depth h _{ef} [mm]	60	12.2	15.2										
	70	14.2	17.8	19.8									
	80	16.3	20.3	22.7	24.4	24.4							
	90	18.3	22.9	25.5	29.1	29.1	29.1						
	100	20.1	25.4	28.3	33.0	34.1	34.1	34.1					
	120		30.5	34.0	39.6	41.8	44.8	44.9	44.9				
	130		31.4	36.8	42.9	45.3	48.5	50.6	50.6	50.6			
	140			39.6	46.2	48.8	52.3	56.5	56.5	56.5			
	150			42.5	49.6	52.3	56.0	62.7	62.7	62.7	62.7		
	160			45.2	52.9	55.8	59.7	68.5	69.1	69.1	69.1	69.1	
	170				56.2	59.2	63.5	72.7	75.7	75.7	75.7	75.7	
	180				59.5	62.7	67.2	77.0	82.4	82.4	82.4	82.4	
	190				61.6	66.2	70.9	81.3	89.4	89.4	89.4	89.4	
	200					69.7	74.7	85.6	95.8	96.5	96.5	96.5	
	210						73.2	78.4	89.8	100.6	93.5	93.5	93.5
	220						76.7	82.1	94.1	105.4	111.4	111.4	111.4
	240						80.4	89.6	102.7	115.0	126.9	126.9	126.9
	260							97.1	111.2	124.6	142.4	143.1	143.1
	280							104.6	119.8	134.2	153.3	159.9	159.9
	300							112.0	128.4	143.8	164.3	177.4	177.4
	320							119.5	136.9	153.3	175.2	195.4	195.4
	340							125.7	145.5	162.9	186.2	209.5	214.0
	360								154.0	172.5	197.2	221.8	233.1
	400								171.1	191.7	219.1	246.4	273.0
	420								179.7	201.3	230.0	258.8	287.5
	450								192.5	215.6	246.4	277.3	308.1
	480								196.3	230.0	262.9	295.7	328.6
	500									239.6	273.8	308.1	342.3
	520									246.3	284.8	320.4	356.0
	560										306.7	345.0	383.4
600										321.7	369.7	410.7	
640											394.3	438.1	
660											406.6	451.8	
680											407.2	465.5	
700												479.2	
720												492.9	
740												502.7	
Design strength of rebar	[kN]	20.1	31.4	45.2	61.6	80.4	125.7	196.3	246.3	321.7	407.2	502.7	

Loads apply to non cracked concrete only

The data are valid for single fixings without consideration of edge and anchor distances

Material safety factor $\gamma_m = 1.15$ has been considered

Loads apply to properly cleaned and dry holes and a short term /long term temperature of 40°C/24°C

Values in bold indicate concrete cone failure is decisive

Design Resistance of MIT 600 RE with Reinforcing Bars [kN]

Concrete Strength : C 35/45

Rebar Yield Strength : 460 N/mm²

Rebar Diameter	[mm]	8	10	12	14	16	20	25	28	32	36	40	
Drill hole diameter	[mm]	12	14	16	18	20	24	32	35	37	45	55	
Drilling Depth h _{ef} [mm]	60	12.4	15.5										
	70	14.5	18.1	20.2									
	80	16.6	20.7	23.1	26.9	26.9							
	90	18.6	23.3	26.0	30.3	32.0	32.1						
	100	20.1	25.9	28.9	33.7	35.5	37.6	37.6					
	120		31.1	34.6	40.4	42.6	45.7	49.5	49.5				
	130		31.4	37.5	43.8	46.2	49.5	55.8	55.8	55.8			
	140			40.4	47.1	49.7	53.3	61.1	62.4	62.4			
	150			43.3	50.5	53.3	57.1	65.4	69.1	69.1	69.1		
	160			45.2	53.9	56.8	60.9	69.8	76.2	76.2	76.2	76.2	
	170				57.2	60.4	64.7	74.1	83.0	83.4	83.4	83.4	
	180				60.6	63.9	68.5	78.5	87.9	90.9	90.9	90.9	
	190				61.6	67.5	72.3	82.9	92.8	98.6	98.6	98.6	
	200					71.0	76.1	87.2	97.7	106.5	106.5	106.5	
	210					74.6	79.9	91.6	102.6	114.5	114.5	114.5	
	220					78.1	83.7	95.9	107.5	122.8	122.8	122.8	
	240					80.4	91.3	104.7	117.2	134.0	139.9	139.9	
	260						99.0	113.4	127.0	145.1	157.8	157.8	
	280							106.6	122.1	136.8	156.3	175.8	176.4
	300							114.2	130.8	146.5	167.5	188.4	195.6
	320							121.8	139.5	156.3	178.6	200.9	215.5
	340							125.7	148.3	166.1	189.8	213.5	236.0
	360								157.0	175.8	200.9	226.1	251.2
	400								174.4	195.4	223.3	251.2	279.1
	420								183.2	205.1	234.4	263.7	293.0
	450								196.2	219.8	251.2	282.6	314.0
	480								196.3	234.4	267.9	301.4	334.9
	500									244.2	279.1	314.0	348.9
	520									246.3	290.3	326.5	362.8
	560										312.6	351.7	390.7
600										321.7	376.8	418.6	
640											401.9	446.5	
660											407.2	460.5	
680												474.5	
700												488.4	
720												502.4	
740												502.7	
Design strength of rebar	[kN]	20.1	31.4	45.2	61.6	80.4	125.7	196.3	246.3	321.7	407.2	502.7	

Loads apply to non cracked concrete only

The data are valid for single fixings without consideration of edge and anchor distances

Material safety factor $\gamma_m = 1.15$ has been considered

Loads apply to properly cleaned and dry holes and a short term /long term temperature of 40°C/24°C

Values in bold indicate concrete cone failure is decisive

Design Resistance of MIT 600 RE with Reinforcing Bars [kN]

Concrete Strength : C 40/50

Rebar Yield Strength : 460 N/mm²

Rebar Diameter	[mm]	8	10	12	14	16	20	25	28	32	36	40
Drill hole diameter	[mm]	12	14	16	18	20	24	32	35	37	45	55
Drilling Depth h _{ef} [mm]	60	12.7	15.8									
	70	14.8	18.5	20.6								
	80	16.9	21.1	23.5	27.4	28.4						
	90	19.0	23.8	26.5	30.9	32.6	33.9					
	100	20.1	26.4	29.4	34.3	36.2	38.8	39.7				
	120		31.4	35.3	41.2	43.4	46.5	52.2	52.2			
	130			38.2	44.6	47.0	50.4	57.8	58.8	58.8		
	140			41.2	48.0	50.7	54.3	62.2	65.7	65.7		
	150			44.1	51.5	54.3	58.2	66.6	72.9	72.9	72.9	
	160			45.2	54.9	57.9	62.0	71.1	79.6	80.3	80.3	80.3
	170				58.3	61.5	65.9	75.5	84.6	87.9	87.9	87.9
	180				61.6	65.1	69.8	80.0	89.6	95.8	95.8	95.8
	190					68.8	73.7	84.4	94.5	103.9	103.9	103.9
	200					72.4	77.6	88.9	99.5	112.2	112.2	112.2
	210					76.0	81.4	93.3	104.5	119.4	120.7	120.7
	220					79.6	85.3	97.7	109.5	125.1	129.5	129.5
	240					80.4	93.1	106.6	119.4	136.5	147.5	147.5
	260						100.8	115.5	129.4	147.9	166.3	166.3
	280						108.6	124.4	139.3	159.2	179.1	185.9
	300						116.3	133.3	149.3	170.6	191.9	206.2
	320						124.1	142.2	159.2	182.0	204.7	227.1
	340						125.7	151.1	169.2	193.4	217.5	241.7
	360							160.0	179.1	204.7	230.3	255.9
	400							177.7	199.1	227.5	255.9	284.4
	420							186.6	209.0	238.9	268.7	298.6
	450							196.3	223.9	255.9	287.9	319.9
	480								238.9	273.0	307.1	341.2
	500								246.3	284.4	319.9	355.4
	520									295.7	332.7	369.7
	560									318.5	358.3	398.1
	600									321.7	383.9	426.5
	640										407.2	455.0
660											469.2	
680											483.4	
700											497.6	
720											502.7	
Design strength of rebar	[kN]	20.1	31.4	45.2	61.6	80.4	125.7	196.3	246.3	321.7	407.2	502.7

Loads apply to non cracked concrete only

The data are valid for single fixings without consideration of edge and anchor distances

Material safety factor $\gamma_m = 1.15$ has been considered

Loads apply to properly cleaned and dry holes and a short term /long term temperature of 40°C/24°C

Values in bold indicate concrete cone failure is decisive

Design Resistance of MIT 600 RE with Reinforcing Bars [kN]

Concrete Strength : C 50/60

Rebar Yield Strength : 460 N/mm²

Rebar Diameter	[mm]	8	10	12	14	16	20	25	28	32	36	40
Drill hole diameter	[mm]	12	14	16	18	20	24	32	35	37	45	55
Drilling Depth h_{ef} [mm]	60	12.9	16.1									
	70	15.1	18.8	21.0								
	80	17.2	21.5	24.0	28.0	29.5						
	90	19.4	24.2	27.0	31.4	33.2	35.5					
	100	20.1	26.9	29.9	34.9	36.9	39.5	43.5				
	120		31.4	35.9	41.9	44.2	47.4	54.3	57.1			
	130			38.9	45.4	47.9	51.3	58.8	64.4	64.4		
	140			41.9	48.9	51.6	55.3	63.4	71.0	72.0		
	150			44.9	52.4	55.3	59.2	67.9	76.0	79.8	79.8	
	160			45.2	55.9	59.0	63.2	72.4	81.1	88.0	88.0	88.0
	170				59.4	62.7	67.1	76.9	86.2	96.3	96.3	96.3
	180				61.6	66.4	71.1	81.5	91.2	104.3	105.0	105.0
	190					70.0	75.0	86.0	96.3	110.1	113.8	113.8
	200					73.7	79.0	90.5	101.4	115.8	122.9	122.9
	210					77.4	82.9	95.0	106.4	121.6	132.3	132.3
	220					80.4	86.9	99.6	111.5	127.4	141.8	141.8
	240						94.8	108.6	121.6	139.0	156.4	161.6
	260						102.7	117.7	131.8	150.6	169.4	182.2
	280						110.6	126.7	141.9	162.2	182.5	202.7
	300						118.5	135.8	152.1	173.8	195.5	217.2
	320						125.7	144.8	162.2	185.4	208.5	231.7
	340							153.9	172.3	196.9	221.6	246.2
	360							162.9	182.5	208.5	234.6	260.7
	400							181.0	202.7	231.7	260.7	289.6
	420							190.1	212.9	243.3	273.7	304.1
	450							196.3	228.1	260.7	293.2	325.8
	480								243.3	278.0	312.8	347.5
	500								246.3	289.6	325.8	362.0
	520									301.2	338.9	376.5
	560									321.7	364.9	405.5
600										391.0	434.4	
640										407.2	463.4	
660											477.9	
680											492.4	
700											502.7	
Design strength of rebar	[kN]	20.1	31.4	45.2	61.6	80.4	125.7	196.3	246.3	321.7	407.2	502.7

Loads apply to non cracked concrete only

The data are valid for single fixings without consideration of edge and anchor distances

Material safety factor $\gamma_m = 1.15$ has been considered

Loads apply to properly cleaned and dry holes and a short term /long term temperature of 40°C/24°C

Values in bold indicate concrete cone failure is decisive

METHOD STATEMENT: INSTALLATION OF THREADED RODS WITH MIT 600RE

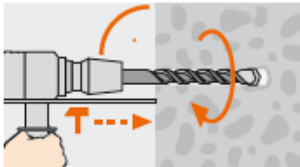
Equipment Needed

Concrete Drilling machine
 Hammer Drill bit of the correct diameter and working length
 Injection Gun for the MIT 600RE
 Steel brush matching the diameter of the drill hole
 Blow out pump or compressed air nozzle (for deeper holes, ≥ 6 bar)
 Person Protection Equipment (PPE) including gloves.

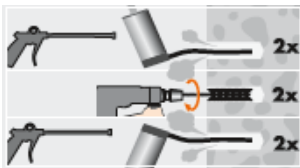
Storing the material

The chemical must be stored at between $+5^{\circ}\text{C}$ to $+25^{\circ}\text{C}$ away from direct sunlight. Please observe the expiration dates on the cartridge. Unused chemical left in the cartridge can be stored again and reused by removing the nozzle and wiping the openings with a cloth and closing with the cap. If the temperature during installation is too high, the cartridges should be kept cool possibly by immersing in water or storing in a cold box.

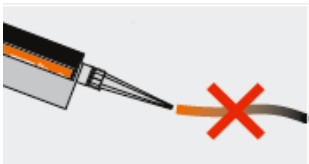
Installation:



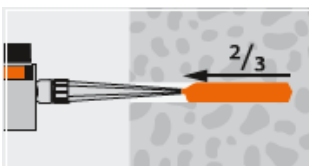
Drill the hole to the required depth



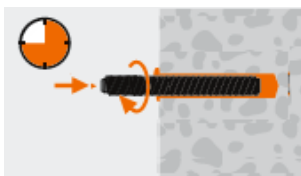
Clean the hole properly using a cycle of blowing out the dust followed by brushing the sides of the drill hole



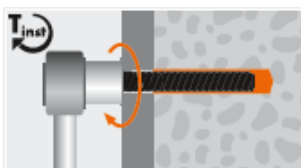
Attach the static mixer to the cartridge and insert into the injection gun, Discard the first few trigger pulls until an even colour of mortar is achieved. This ensures that the injected chemical has been properly mixed.



Starting from the end of the drill hole inject the mortar by pressing the trigger while simultaneously moving the nozzle toward the mouth of the hole. Inject approximately two thirds of the hole depth with mortar



Clean the rod and insert in to the hole with a twisting action until it touches the bottom of the hole. Ensure that some mortar has come out of the hole to indicate enough has been used. You can make any adjustments to the rod during the gelling time.



Once the full cure time has elapsed attach the baseplate and loads can be applied.

Installation procedures should be observed to ensure correct and safe installation. For any site support or additional assistance kindly contact your Mungo representative.

METHOD STATEMENT: INSTALLATION OF REBARS WITH MIT 600RE

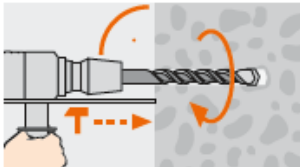
Equipment Needed

Concrete Drilling machine
 Hammer Drill bit of the correct diameter and working length
 Injection Gun for the MIT 600 RE
 Steel brush matching the diameter of the drill hole
 Blow out pump or compressed air nozzle (for deeper holes, ≥ 6 bar)
 Person Protection Equipment (PPE) including gloves.

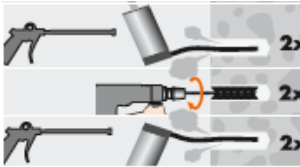
Storing the material

The chemical must be stored at between $+5^{\circ}\text{C}$ to $+25^{\circ}\text{C}$ away from direct sunlight. Please observe the expiration dates on the cartridge. Unused chemical left in the cartridge can be stored again and reused by removing the nozzle and wiping the openings with a cloth and closing with the cap. If the temperature during installation is too high, the cartridges should be kept cool possibly by immersing in water or storing in a cold box.

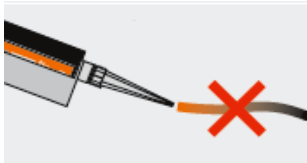
Installation:



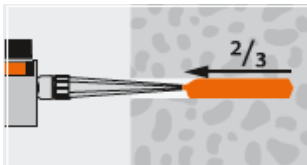
Drill the hole to the required depth



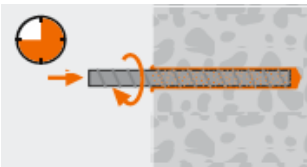
Clean the hole properly using a cycle of blowing out the dust followed by brushing the sides of the drill hole



Attach the static mixer to the cartridge and insert into the injection gun, Discard the first few trigger pulls until an even colour of mortar is achieved. This ensures that the injected chemical has been properly mixed.



Starting from the end of the drill hole inject the mortar by pressing the trigger while simultaneously moving the nozzle toward the mouth of the hole. Inject approximately two thirds of the hole depth with mortar



Clean the rebar and insert in to the hole with a twisting action until it touches the bottom of the hole. Ensure that some mortar has come out of the hole to indicate enough has been used. You can make any adjustments to the rebar during the gelling time. After this wait until the full cure time has elapsed before applying any loads.

Installation procedures should be observed to ensure correct and safe installation. For any site support or additional assistance kindly contact your Mungo representative.

Safety Data Sheet according to (EC) No 1907/2006 - ISO 11014-1

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Mungo MIT 600 RE

sds no. : 226861

V003.0

Revision: 30.11.2009

printing date: 01.12.2009

1. Identification of the substance/preparation and of the company/undertaking

Trade name:

Mungo MIT 600 RE, Comp. A

Intended use:

compound mortar

Company name:

Mungo Befestigungstechnik AG

Bornfeldstrasse 2

CH-4603 Olten

Phone: 0041 62 206 75 75

E-Mail: Responsible for the safety data sheet: mungo@mungo.ch

2. Hazards identification

The product is classified as hazardous within the meaning of the valid (EU) preparation directive.

Xi - Irritant

N - Dangerous for the environment

R36/38 Irritating to eyes and skin.

R43 May cause sensitisation by skin contact.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Persons suffering from allergic reactions to epoxides should avoid contact with the product.

3. Composition / information on ingredients

General chemical description:

Resin

Base substances of preparation:

Inorganic fillers

Epoxy resin

Declaration of ingredients according to (EC) No 1907/2006:

Hazardous components CAS-No.	EINECS	content	Classification
Bisphenol-A epichlorhydrin resin MW <= 700 25068-38-6	500-033-5	>= 25 - < 50 %	Xi - Irritant; R36/38 R43 N - Dangerous for the environment; R51, R53
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	500-006-8	>= 10 - < 20 %	Xi - Irritant; R36/38 Xi - Irritant; R43 N - Dangerous for the environment; R51/53
1,6-Bis(2,3-epoxypropoxy)hexane 16096-31-4	240-260-4	>= 10 - < 20 %	R52/53 Xi - Irritant; R36/38, R43

For full text of the R-Phrases indicated by codes see section 16 'Other Information'.

Substances without classification may have community workplace exposure limits available.

4. First aid measures

General information:

In case of adverse health effects seek medical advice.

Symptoms of poisoning may occur even after several hours, continue medical observation for at least 48 hours after the accident.

Inhalation:

Move to fresh air.

Skin contact:

Rinse with running water and soap. Skin care. Remove contaminated clothes immediately.

Eye contact:

Rinse immediately with plenty of running water, seek medical advice from a specialist.

Ingestion:

Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

5. Fire fighting measures

Suitable extinguishing media:

carbon dioxide, foam, powder, water spray jet, fine water spray

Extinguishing media which must not be used for safety reasons:

High pressure waterjet

Special protection equipment for firefighters:

Wear self-contained breathing apparatus.

Wear protective equipment.

Hazardous combustion products:

Carbon dioxide., carbon monoxide

Additional information:

Dispose of combustion residues and contaminated fire-fighting water in accordance with statutory regulations.

6. Accidental release measures

Personal precautions:

Avoid contact with skin and eyes.
Keep away from sources of ignition.
Ensure adequate ventilation.
Danger of slipping on spilled product.
Do not breathe solvent vapors.
Keep unprotected persons away.

Environmental precautions:

Do not empty into drains / surface water / ground water.

Clean-up methods:

Remove mechanically.
Dispose of contaminated material as waste according to item 13.

7. Handling and storage

Handling:

Avoid skin and eye contact.
Ventilate working rooms thoroughly. Avoid naked flames, sparking and sources of ignition. Switch off electrical devices. Do not smoke, do not weld. Do not empty waste into waste water drains.

Storage:

- Store in sealed original container protected against moisture.
- Store in a cool, dry place.
- Storage at 5 to 25°C is recommended.
- Keep container in a well ventilated place.
- Do not store together with food or other consumables (coffee, tea, tobacco, etc.).

8. Exposure controls / personal protection

Components with specific control parameters for workplace:

none

Respiratory protection:

- Suitable breathing mask when there is inadequate ventilation.
- Combination filter : A - P2

Hand protection:

For shorttime contact (e.g. as protection against splashes) protective gloves made from butyl rubber are recommended according to EN 374.

material thickness > 0.7 mm

Perforation time > 60 minutes

In the case of longer and repeated contact please note that in practice the penetration times may be considerably shorter than those determined according to EN 374. The protective gloves must always be checked for their suitability for use at the specific workplace (e.g. mechanical and thermal stress, product compatibility, antistatic effects, etc.). The gloves must be replaced immediately at the first signs of wear and tear. The information provided by the manufacturers and given in the relevant trade association regulations for industrial safety must always be observed. We recommend that a hand care plan is drawn up in cooperation with a glove manufacturer and the trade association in accordance with the local operating conditions.

Eye protection:

- Goggles which can be tightly sealed.

Skin protection:

- Suitable protective clothing

General protection and hygiene measures:

- Wash off any dirt that gets onto the skin with lots of soap and water, skin care.
- Do not eat, drink or smoke while working.
- Wash hands before work breaks and after finishing work.

9. Physical and chemical properties

General characteristics:

Appearance	Paste pasty light beige
Odor:	Characteristic

Phys./chem. properties:

Density (23 °C (73.4 °F))	1,55 g/cm ³
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Insoluble

10. Stability and reactivity

Conditions to avoid:

No decomposition if used according to specifications.

Materials to avoid:

Reacts with strong oxidants.
Reaction with amines
Reaction with alcohols
Reaction with strong bases
Reaction with strong acids.

Hazardous decomposition products:

None if used for intended purpose.

11. Toxicological information

General toxicological information:

Persons suffering from allergic reactions to epoxides should avoid contact with the product.

Skin irritation:

Primary skin irritation: irritating

Eye irritation:

Primary eye irritation: irritating

Sensitizing:

May cause sensitization by skin contact.

12. Ecological information

Persistence and degradability:**Ultimate biodegradation:**

The total of the organic components contained in the product achieve values below 60% BOD/COD or CO₂ liberation, or below 70% DOC reduction in tests for ease of degradability. Threshold values for 'readily degradable' (e.g. to OECD method 301) are not reached.

Ecotoxicity:

Hazardous components CAS-No.	Species	Exposure time	Value type	Value
Bisphenol-A epichlorhydrin resin MW <= 700 25068-38-6	Trout family (Salmonidae)	96 h	LC 50	3,6 mg/l

General ecological information:

Do not empty into drains, soil or bodies of water.

13. Disposal considerations

Product disposal:

Dispose of waste and residues in accordance with local authority requirements.
After curing with component B :
Can be added to household waste in small quantities.
The valid EEC waste code numbers are not product-related but are largely source-related. These can be requested from the manufacturer.

Disposal of uncleaned packages:

Use packages for recycling only when totally empty.

14. Transport information

Road transport ADR:

Class: 9
Packaging group: III
Classification code: M7
Hazard ident. number: 90
UN no.: 3077
Label: 9
Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S.

Railroad transport RID:

Class: 9
Packaging group: III
Classification code: M7
Hazard ident. number: 90
UN no.: 3077
Label: 9
Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S.

Inland water transport ADN:

Class: 9
Packaging group: III
Classification code: M7
Hazard ident. number: 90
UN no.: 3077
Label: 9
Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S.

Marine transport IMDG:

Class: 9
Packaging group: III
UN no.: 3077
Label: 9
EmS: F-A ,S-F
Seawater pollutant:
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S.

Air transport IATA:

Class: 9
Packaging group: III
Packaging instructions (passenger) 911
Packaging instructions (cargo) 911
UN no.: 3077
Label: 9
Proper shipping name: Environmentally hazardous substance, solid, n.o.s.

15. Regulations - classification and identification

Indication of danger:

Xi - Irritant

N - Dangerous for the environment



Contains

Bisphenol-A epichlorhydrin resin MW \leq 700,
Bisphenol-F epichlorhydrin resin; MW < 700,
1,6-Bis(2,3-epoxypropoxy)hexane

Risk phrases:

R36/38 Irritating to eyes and skin.
R43 May cause sensitisation by skin contact.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases:

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S51 Use only in well-ventilated areas.
S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

Additional labeling:

Contains epoxy constituents. See information supplied by the manufacturer.

16. Other information

The labelling of the product is indicated in Section 15. The full text of the R-phrases indicated by codes in this safety data sheet are as follows:

R36/38 Irritating to eyes and skin.
R43 May cause sensitisation by skin contact.
R51 Toxic to aquatic organisms.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R53 May cause long-term adverse effects in the aquatic environment.

Further information:

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

The product is intended for industrial use.

Safety Data Sheet according to (EC) No 1907/2006 - ISO 11014-1

Page 1 of 7

Mungo MIT 600 RE

sds no. : 226861

V003.0

Revision: 30.11.2009

printing date: 01.12.2009

1. Identification of the substance/preparation and of the company/undertaking

Trade name:

Mungo MIT 600 RE, Comp. B

Intended use:

compound mortar

Company name:

Mungo Befestigungstechnik AG

Bornfeldstrasse 2

CH-4603 Olten

Phone: 0041 62 206 75 75

E-Mail: Responsible for the safety data sheet: mungo@mungo.ch

2. Hazards identification

The product is classified as hazardous within the meaning of the valid (EU) preparation directive.

C - Corrosive

R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

R34 Causes burns.

R43 May cause sensitisation by skin contact.

R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R68 Possible risk of irreversible effects.

Persons suffering from allergic reactions to amines should avoid contact with the product.

3. Composition / information on ingredients

General chemical description:

Hardener

Base substances of preparation:

Inorganic fillers

Declaration of ingredients according to (EC) No 1907/2006:

Hazardous components CAS-No.	EINECS	content	Classification
Isophorone diamine 2855-13-2	220-666-8	> 10 - < 25 %	Xn - Harmful; R21/22 C - Corrosive; R34 R43 R52, R53
Benzyl alcohol 100-51-6	202-859-9	> 1 - < 10 %	Xn - Harmful; R20/22
Diethylenetriamine 111-40-0	203-865-4	> 1 - < 10 %	C - Corrosive; R34 Xn - Harmful; R21/22 R43
2,4,6- Tris(dimethylaminomethyl)phenol 90-72-2	202-013-9	> 1 - < 10 %	Xn - Harmful; R22 Xi - Irritant; R36/38
m-Phenylenebis(methylamine) 1477-55-0	216-032-5	> 1 - < 5 %	C - Corrosive; R34 Xn - Harmful; R20/22 Xi - Irritant; R43 R52/53
Phenol 108-95-2	203-632-7	> 1 - < 5 %	Mutagen category 3.; R68 T - Toxic; R23/24/25 Xn - Harmful; R48/20/21/22 C - Corrosive; R34

For full text of the R-Phrases indicated by codes see section 16 'Other Information'.

Substances without classification may have community workplace exposure limits available.

4. First aid measures

General information:

In case of adverse health effects seek medical advice.
Remove casualty immediately from danger zone. Take off immediately all contaminated clothing.

Inhalation:

Move to fresh air, consult doctor if complaint persists.
If unconscious keep patient in stable recovery position (lying on one side) for transport.
Delayed effects possible after inhalation.

Skin contact:

Immediately rinse with copious amounts of running water (for 10 minutes). Remove contaminated clothes. Put on a bandage with sterile gauze, seek medical attention in hospital.

Eye contact:

Rinse immediately with plenty of running water, seek medical advice from a specialist.

Ingestion:

Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

5. Fire fighting measures

Suitable extinguishing media:

carbon dioxide, foam, powder, water spray jet, fine water spray

Extinguishing media which must not be used for safety reasons:

High pressure waterjet

Special protection equipment for firefighters:

Wear self-contained breathing apparatus.
Wear protective equipment.

Hazardous combustion products:

Carbon dioxide., carbon monoxide, nitrogen oxides

Additional information:

In case of fire, keep containers cool with water spray.

6. Accidental release measures

Personal precautions:

Avoid contact with skin and eyes.
Ensure adequate ventilation.
Do not breathe solvent vapors.
Keep unprotected persons away.

Environmental precautions:

Do not empty into drains / surface water / ground water.

Clean-up methods:

Remove with liquid-absorbing material.
Dispose of contaminated material as waste according to item 13.

7. Handling and storage

Handling:

Avoid skin and eye contact.
Ensure that workrooms are adequately ventilated.

Storage:

Store in sealed original container protected against moisture.
Store in a cool, dry place.
Storage at 5 to 25°C is recommended.
Keep container in a well ventilated place.
Do not store together with food or other consumables (coffee, tea, tobacco, etc.).

8. Exposure controls / personal protection

Components with specific control parameters for workplace:

Valid for
Great Britain

Ingredient	ppm	mg/m ³	Type	Category	Remarks
2,2'-IMINODI(ETHYLAMINE) 111-40-0			Skin designation:	Can be absorbed through the skin.	EH40 WEL
2,2'-IMINODI(ETHYLAMINE) 111-40-0	1	4,3	Time Weighted Average (TWA).		EH40 WEL
PHENOL 108-95-2	2		Time Weighted Average (TWA).		EH40 WEL
PHENOL 108-95-2			Skin designation:	Can be absorbed through the skin.	EH40 WEL

Valid for
Great Britain
Basis
UK EH40 WELs

Ingredient	ppm	mg/m ³	Type	Category	Remarks
PHENOL 108-95-2	2		Time Weighted Average (TWA).		EH40 WEL
PHENOL 108-95-2			Skin designation:	Can be absorbed through the skin.	EH40 WEL
2,2'-IMINODI(ETHYLAMINE) 111-40-0			Skin designation:	Can be absorbed through the skin.	EH40 WEL
2,2'-IMINODI(ETHYLAMINE) 111-40-0	1	4,3	Time Weighted Average (TWA).		EH40 WEL

Engineering controls:

No further information, see section 7.

Respiratory protection:

Suitable breathing mask when there is inadequate ventilation.
Combination filter : A - P2

Hand protection:

For shorttime contact (e.g. as protection against splashes) protective gloves made from butyl rubber are recommended according to EN 374.
material thickness > 0.7 mm
Perforation time > 60 minutes

In the case of longer and repeated contact please note that in practice the penetration times may be considerably shorter than those determined according to EN 374. The protective gloves must always be checked for their suitability for use at the specific workplace (e.g. mechanical and thermal stress, product compatibility, antistatic effects, etc.). The gloves must be replaced immediately at the first signs of wear and tear. The information provided by the manufacturers and given in the relevant trade association regulations for industrial safety must always be observed. We recommend that a hand care plan is drawn up in cooperation with a glove manufacturer and the trade association in accordance with the local operating conditions.

Eye protection:

Goggles which can be tightly sealed.

Skin protection:

Suitable protective clothing

General protection and hygiene measures:

Wash off any dirt that gets onto the skin with lots of soap and water, skin care.

Do not eat, drink or smoke while working.

Wash hands before work breaks and after finishing work.

When using the product avoid alcohol consumption.

9. Physical and chemical properties

General characteristics:

Appearance	Paste pasty Black
Odor:	Amine-like

Phys./chem. properties:

Density (20 °C (68 °F))	1,09 g/cm ³
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Partially miscible
Explosion limit lower [vol%]	1,0 %(V)
upper [vol%]	13 %(V)

10. Stability and reactivity

Conditions to avoid:

No decomposition if used according to specifications.

Materials to avoid:

Reacts with strong oxidants.

Reaction with strong acids.

Hazardous decomposition products:

None known

11. Toxicological information

General toxicological information:

Danger of serious damage to health by prolonged exposure.

Persons suffering from allergic reactions to amines should avoid contact with the product.

Oral toxicity:

Harmful if swallowed.

Inhalative toxicity:

Harmful by inhalation.

Dermal toxicity:

Harmful in contact with skin.

Skin irritation:

Primary skin irritation: corrosive

Eye irritation:

Primary eye irritation: corrosive

Sensitizing:

May cause sensitization by skin contact.

Cross-reactions with other amine compounds are possible.

12. Ecological information**Persistence and degradability:****Ultimate biodegradation:**

The total of the organic components contained in the product achieve values below 60% BOD/COD or CO₂ liberation, or below 70% DOC reduction in tests for ease of degradability. Threshold values for 'readily degradable' (e.g. to OECD method 301) are not reached.

Ecotoxicity:

Hazardous components CAS-No.	Species	Exposure time	Value type	Value
m-Phenylenebis(methylamine) 1477-55-0	Trout family (Salmonidae)	96 h	LC 50	> 100 mg/l
m-Phenylenebis(methylamine) 1477-55-0	Water flea (Daphnia magna)	48 h	EC 50	16 mg/l

General ecological information:

Do not empty into drains, soil or bodies of water.

13. Disposal considerations**Product disposal:**

Dispose of waste and residues in accordance with local authority requirements.

After curing with component A :

Can be added to household waste in small quantities.

The valid EEC waste code numbers are not product-related but are largely source-related. These can be requested from the manufacturer.

Disposal of uncleaned packages:

Only well-emptied containers with dried or cured product residues and without solvent vapors can be recycled.

14. Transport information**Road transport ADR:**

Class:	8
Packaging group:	III
Classification code:	C8
Hazard ident. number:	80
UN no.:	3259
Label:	8
Technical name:	AMINES, SOLID, CORROSIVE, N.O.S.

Railroad transport RID:

Class: 8
Packaging group: III
Classification code: C8
Hazard ident. number: 80
UN no.: 3259
Label: 8
Technical name: AMINES, SOLID, CORROSIVE, N.O.S.

Inland water transport ADN:

Class: 8
Packaging group: III
Classification code: C8
Hazard ident. number: 80
UN no.: 3259
Label: 8
Technical name: AMINES, SOLID, CORROSIVE, N.O.S.

Marine transport IMDG:

Class: 8
Packaging group: III
UN no.: 3259
Label: 8
EmS: F-A ,S-B
Seawater pollutant:
Proper shipping name: AMINES, SOLID, CORROSIVE, N.O.S.

Air transport IATA:

Class: 8
Packaging group: III
Packaging instructions (passenger) 822
Packaging instructions (cargo) 823
UN no.: 3259
Label: 8
Proper shipping name: Amines, solid, corrosive, n.o.s.

15. Regulations - classification and identification

Indication of danger:

C - Corrosive



Contains

Isophorone diamine,
m-Phenylenebis(methylamine),
Diethylenetriamine,
Phenol

Risk phrases:

- R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
- R34 Causes burns.
- R43 May cause sensitisation by skin contact.
- R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R68 Possible risk of irreversible effects.

Safety phrases:

- S23 Do not breathe vapour.
- S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S51 Use only in well-ventilated areas.
- S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

16. Other information

The labelling of the product is indicated in Section 15. The full text of the R-phrases indicated by codes in this safety data sheet are as follows:

- R20/22 Harmful by inhalation and if swallowed.
- R21/22 Harmful in contact with skin and if swallowed.
- R22 Harmful if swallowed.
- R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
- R34 Causes burns.
- R36/38 Irritating to eyes and skin.
- R43 May cause sensitisation by skin contact.
- R48/20/21/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
- R52 Harmful to aquatic organisms.
- R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R53 May cause long-term adverse effects in the aquatic environment.
- R68 Possible risk of irreversible effects.

Further information:

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

The product is intended for industrial use.



European Technical Approval ETA-09/0340

English translation prepared by DIBt - Original version in German language

Handelsbezeichnung
Trade name

Mungo Injektionssystem MIT 600 RE für Beton
Mungo Injection system MIT 600 RE for concrete

Zulassungsinhaber
Holder of approval

Mungo Befestigungstechnik AG
Bornfeldstrasse 2
4603 OLTEN
SCHWEIZ

Zulassungsgegenstand
und Verwendungszweck
*Generic type and use
of construction product*

Verbunddübel mit Ankerstange zur Verankerung im Beton
Bonded anchor with anchor rod for use in concrete

Geltungsdauer:
Validity: vom
from
bis
to

14 June 2013
31 May 2018

Herstellwerk
Manufacturing plant

Mungo 2

Diese Zulassung umfasst
This Approval contains

33 Seiten einschließlich 24 Anhänge
33 pages including 24 annexes

Diese Zulassung ersetzt
This Approval replaces

ETA-09/0340 mit Geltungsdauer vom 23.10.2009 bis 03.02.2014
ETA-09/0340 with validity from 23.10.2009 to 03.02.2014

ICC-ES Evaluation Report
ESR-3411
Reissued April 2014
This report is subject to renewal May 1, 2016.
www.icc-es.org | (800) 423-6587 | (562) 699-0543

A Subsidiary of the International Code Council®
DIVISION: 03 00 00—CONCRETE
Section: 03 16 00—Concrete Anchors
DIVISION: 05 00 00—METALS
Section: 05 05 19—Post-Installed Concrete Anchors
REPORT HOLDER:
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SWITZERLAND
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EVALUATION SUBJECT:
MUNGO MIT 600RE
1.0 EVALUATION SCOPE
Compliance with the following codes:

- 2009 and 2006 *International Building Code*® (IBC)
- 2009 and 2006 *International Residential Code*® (IRC)

Property evaluated:

Structural

2.0 USES
2.1 General:

The Mungo MIT 600RE epoxy adhesive anchors are used to resist static, wind or earthquake (IBC Seismic Design Categories A through F) tension and shear loads in cracked and uncracked normal-weight concrete with 1/2-, 5/8-, 3/4-, 7/8-, 1-, and 1 1/4-inch-diameter (12.7, 15.9, 19.1, 22.2, 25.4 and 31.8 mm) threaded steel rods and No. 4 through No. 10 steel reinforcing bars in hammer-drilled holes.

The anchors are used to resist static, wind or earthquake (IBC Seismic Design Categories A and B only) tension and shear loads in uncracked normal-weight concrete only with 3/8-inch-diameter (9.5 mm) threaded steel rods and No. 3 steel reinforcing bars in hammer-drilled holes and uncracked normal-weight concrete only with 1/2-, 5/8-, 3/4-, 7/8- and 1-inch-diameter (12.7, 15.9, 19.1, 22.2 and 25.4 mm) threaded steel rods and No. 4 through No. 8 steel reinforcing bars in core drilled holes. Use is limited to normal-weight concrete with a specified compressive strength, f'_c , of 2,500 psi to 8,500 psi (17.2 MPa to 58.6 MPa).

The anchor system is an alternative to cast-in-place anchors described in Sections 1911 and 1912 of the 2009 and 2006 IBC. The anchor systems may also be used where an engineered design is submitted in accordance with Section R301.1.3 of the IRC.

3.0 DESCRIPTION
3.1 General:

The Mungo MIT 600RE Epoxy Adhesive Anchor System is comprised of a two-component epoxy adhesive filled in cartridges, static mixing nozzles, dispensing tools, hole cleaning equipment and adhesive injection accessories.

Mungo MIT 600RE epoxy adhesive may be used with continuously threaded steel rods or deformed steel reinforcing bars. The primary components of the Mungo MIT 600RE Epoxy Adhesive Anchor System, including the epoxy adhesive cartridge, static mixing nozzle, the nozzle extension tube, dispensing tool and typical steel anchor elements, are shown in Figure 2 of this report. Manufacturer's printed installation instructions (MPII) and parameters, as included with each adhesive unit package, are replicated in Figure 2 of this report.

3.2 Materials:

3.2.1 Mungo MIT 600RE Epoxy Adhesive: MIT 600RE epoxy adhesive is an injectable two-component epoxy. The two components are separated by means of a labeled dual-cylinder cartridge. The two components combine and react when dispensed through a static mixing nozzle, supplied by Mungo Befestigungstechnik AG, which is attached to the cartridge. A nozzle extension tube is also packaged with the cartridge. The Mungo MIT 600RE epoxy adhesive is available in 13-ounce (385 mL), 20-ounce (585 mL), and 47-ounce (1400 mL) cartridges. Each cartridge label is marked with the adhesive expiration date. The shelf life, as indicated by the expiration date, applies to an unopened cartridge when stored in accordance with the MPII, as illustrated in Figure 2 of this report.

3.2.2 Hole Cleaning Equipment: Hole cleaning equipment is comprised of steel wire brushes and air pump supplied by Mungo Befestigungstechnik AG, and a compressed air nozzle. The equipment is shown in Figure 2 of this report.

3.2.3 Dispensers: Mungo MIT 600RE epoxy adhesive must be dispensed with manual, pneumatic dispensers, or electric powered dispensers supplied by Mungo Befestigungstechnik AG.

3.2.4 Steel Anchor Elements: