

SELF-DRILLING ANCHOR



Self-drilling hollow bar anchor system

The self-drilling hollow bar anchor system is comprised of a hollow threaded bar attached with a drill bit that performs drilling, the hollow bar allows air and water to freely pass through the bar during drilling to remove debris, after drilling at the required depth is completed, grout fills the hollow bar through the pressure for their requirement and completely covers the entire bolt

Coupler: The couplers can be used to join hollow bars and extend the bolt length, it means the anchor can be elongated with the couplers

Plate and Nut: The plate and nut are installed according to their design requirement

Drill Bit: The drill bit would be selected at the choice of ground condition



Application

When underground drilling is performed it is common to encounter soft rock, fractured zone and large deformations because of high ground stress. In case of serious collapsing, an extra-long anchor is needed instead of ordinary one.



Kemaico self-drilling anchor embodies drilling, grouting and anchoring as a whole.

Anchoring is widely used in tunnel for pre-support, slope, coast, mine, water conservancy projects, building foundation, roadbed reinforcement and geological faulty treatment such as landslip, crack, and sink age. It's irreplaceable in narrow construction environment.

Self-drilling hollow anchor bar



TYPE	Outer Dia.	Inner Dia.	effective Ext. dia.	Aver. Effect. Cross-sec Area	Ultimate load capacity	Yield load capacity	Tensile Strength	Yield Strength	Weight
	mm Inch	mm inch	mm inch	mm ² Inch ²	KN kips	KN kips	N/mm ²	N/mm ²	KG/M lbs./ft.
R25N	25mm	14 mm	23 mm	290 mm ²	200 KN	150 KN	690	520	2.3 kg/m
	0.98 inch	0.55 inch	0.90inch	0.45 in ²	45 kips	33.75 kips			1.54 lbs./ft.
R32N	32 mm	18.5 mm	29.1 mm	430 mm ²	280 KN	230 KN	650	530	3.4 kg/m
	1.26 inch	0.73inch	1.14 inch	0.66 in ²	63 kips	51.75 kips			2.28 lbs./ft.
R32S	32 mm	15 mm	29.1 mm	520 mm ²	360 KN	280 KN	690	540	4.1 kg/m
	1.26 inch	0.59 inch	1.14 inch	0.80 in ²	81 kips	63 kips			2.75 lbs./ft.
R32L	32 mm	22 mm	29.1 mm	340 mm ²	220 KN	180 KN	650	530	2.7 kg/m
	1.26 inch	0.86 inch	1.14 inch	0.52 in ²	49.5 kips	40.5 kips			1.81 lbs./ft.
	1.26 inch	0.87 inch	1.14 inch	0.53 in ²	49.5 kips	40.5 kips			1.81 lbs./ft.
R38N	38 mm	19 mm	35.7 mm	770 mm ²	500 KN	400 KN	650	520	6.1 kg/m
	1.5 inch	0.75 inch	1.4 inch	1.2in ²	112.5 kips	90 kips			4.0 lbs./ft.
R51L	51 mm	36 mm	47.8 mm	890 mm ²	550 KN	450 KN	620	510	7.0 kg/m
	2 inch	1.41 inch	1.88 inch	1.38 in ²	123.5 kips	101.25 kips			4.7 lbs./ft.
R51N	51 mm	33 mm	47.8 mm	1070 mm ²	800 KN	630 KN	750	590	8.4 kg/m
	2 inch	1.3 inch	1.88 inch	1.65 in ²	180 kips	141.75 kips			5.6 lbs./ft.
T76N	76 mm	51 mm	76 mm	1900 mm ²	1600 KN	1200 KN	840	630	15 kg/m
	3 inch	2 inch	3 inch	2.94 in ²	360 kips	270 kips			10 lbs./ft.
T76S	76mm	45 mm	76 mm	2500 mm ²	1900 KN	1500 KN	760	600	19.7 kg/m
	3 inch	1.77 inch	3 inch	3.87in ²	427.5 kips	337.5 kips			13.2 lbs./ft.
T30/11	30 mm	11 mm	30 mm	406 mm ²	260 KN	260 KN	320	560	3.2 kg/m
	1.18 inch	0.43 inch	1.18 inch	0.63 in ²	58.5 kips	58.5 kips			2.15 lbs./ft.
T40/16	40 mm	16 mm	40 mm	910 mm ²	425 KN	525 KN	540	560	5.5 kg/m
	1.57 inch	0.63 inch	1.57 inch	1.41 in ²	95.5 kips	118 kips			3.70 lbs./ft.
Anchor Plate	120mmX120mmX6mm 4.72"×4.72"×0.23"			150mmX150mmX8mm 5.9"×5.9"×0.31"			200mmX200mmX10mm 7.87"×7.87"×0.39"		
Anchor nut	SW41 X H35			SW46 X H45			SW65 X H55		
Coupling	D35 X L150		D41 X L160		D55 X L170		D46 X L120		
Drill Bit	Select according to type of drilling/formation, steel, alloy etc. Also the custom design bit is available								
Thread Type	R25N, R32N, R32S, R32L, R38N and R51L R51N, T76N and T76S				ISO 10208 ISO1720				

R25

	Description	R25 Size mm / inch	Weight Kg / Lb.	Part No.	Remark
Bit with Thread R25	Cast cross bit	42 mm 1.65 inch	0.35 kg 0.77 lb.	25MR31042	Cast cross bit for sand and gravel
		51 mm 2 inch	0.38 kg 0.83 lb.	25MR31051	
	Steel cross bit	42 mm 1.65 inch	0.30 kg 0.66 lb.	25MR31142	Hardened cross bit for loose to medium dense conditions with small boulders.
		51 mm 2 inch	0.40 kg 0.88 lb.	25MR31151	
	TC cross bit	42 mm 1.65 inch	0.35 kg 0.77 lb.	25MR31242	TC cross bit for soft to medium rock formations
		51 mm 2 inch	0.45 kg 0.99 lb.	25MR31251	

	Length (Meter) / Feet	Part No.
Bar R25	1 m long / 3.28 ft.	25MR01
	2 m long / 6.56 ft.	25MR02
	3 m long / 9.84 ft.	25MR03
	4 m long / 13.12 ft.	25MR04
	5 m long / 16.40 ft.	25MR05
	6 m long / 19.68 ft.	25MR06

	Diameter (mm) / inch	Length (mm) / inch	Part No.
Coupler R25	38 mm / 1.5 inch	150 mm / 5.90 inch	25MR1538

	Key size (mm) / inch	Length (mm) / inch	Part No.
Nut R25	41 mm / 1.61 inch	41 mm / 1.61 inch	25MR4141

	Key size (mm) / inch	Length (mm) / inch	Weight kg / Lb.	Part No.
Spherical nut R25	41mm / 1.61 inch	41 mm / 1.61 inch	0.33 kg / 0.72 lb.	25MR4141S

	Dimension (mm) / inch	Hole diameter (mm) / inch	Weight Kg / Lb.	Part No.
Anchor plate R25	150×150×8 mm 5.9 x 5.9 x .31 inch	27 mm / 1.06 inch	1.36 kg / 3.0 lb.	25MR0827
	200×200×10 mm 7.87x 7.87x.39 inch	27 mm / 1.06 inch	2.99 kg / 6.6 lb.	25MR1027

R32

	Description	R32 Size mm / inch	Weight Kg / lb.	Part No.	Remark
Bit with thread R32N & R32S & R32L	Cast cross bit	51 mm 2 inch	0.45kg 0.99 lb.	32MR31051	Cast cross bit for sand and gravel
	Steel cross bit	51 mm 2 inch	0.40 kg 0.88 lb.	32MR31151	Hardened steel bit for loose to medium dense ground conditions
		76 mm 3 inch	1.30 kg 2.86 lb.	32MR31176	
	Steel 3 cutter bit	76 mm 3 inch	1.20 kg 2.64 lb.	32MR31376	
	TC cross bit	51 mm 2 inch	0.45 kg 0.99 lb.	32MR31251	TC insert bit for soft to medium rock formations
	TC 3 cutter bit	76 mm 3 inch	1.30 kg 2.86 lb.	32MR33276	
	Steel arched bit	51 mm 2 inch	0.45 kg 0.99 lb.	32MR34151	Hardened arched bit for optimized geometry for unconsolidated soil with small boulders
	TC arched bit	51 mm 2 inch	0.45 kg 0.99 lb.	32MR34251	TC arched bit for optimized geometry for soft to medium rock formations
	Steel button bit	51 mm 2 inch	0.60 kg 1.32 lb.	32MR30151	Hardened button bit for unconsolidated rock with boulders
	TC button bit	51 mm 2 inch	0.65 kg 1.43 lb.	32MR30251	TC insert button bit for medium rock formation
	EX bit	51 mm 2 inch	0.40 kg 0.88 lb.	32MR31151	Hardened cross cut drill bit, suitable for most applications including narrow bands of soft rock.
	EXX bit (alternative)	51 mm 2 inch	0.50 kg 1.10 lb.	32MR31251	EXX is the hardest drill bit available, for very hard rock, for seams and concrete footings.

R32

	Length Meter / Feet	Type	Part No.
Bar R32	1 m / 3.28 ft.	R32L R32N R32S	32MR01L / 32MR01N / 32MR01S
	2 m / 6.56 ft.	R32L R32N R32S	32MR02L / 32MR02N / 32MR02S
	3 m / 9.84 ft.	R32L R32N R32S	32MR03L / 32MR03N / 32MR03S
	4 m / 13.12 ft.	R32L R32N R32S	32MR04L / 32MR04N / 32MR04S
	6 m / 19.7 ft.	R32L R32N R32S	32MR06L / 32MR06N / 32MR06S

	Diameter (mm) / inch	Length (mm) / inch	Weight Kg / Lb.	Part No.
Coupler R32	42 mm / 1.65 inch	160 mm / 6.3 inch	0.85 kg / 1.87 lb.	32MR1642

	Key size (mm) / inch	Length (mm) / inch	Weight Kg / Lb.	Part No.
Nut R32	46 mm / 1.81 inch	45 mm / 1.77 inch	0.35 kg / 0.77 lb.	32MR4546

	Key size (mm) / inch	Length (mm) / inch	Weight Kg / Lb.	Part No.
Spherical nut R32	41 mm / 1.61 inch	41 mm / 1.61 inch	0.33 kg / 0.72 lb.	32MR4141S

	Dimension (mm) / inch	Hole diameter (mm) / inch	Weight Kg / Lb.	Part No.
Anchor plate R32	150×150×8 mm 5.9X 5.9 X .31 inch	27 mm / 1.06 inch	1.36 kg / 3 lb.	32MR0827
	200×200×10 7.87 X 7.87 X .39 inch	27 mm / 1.06 inch	2.99 kg / 6.59 lb.	32MR1027

R38

	Description	R38 Size mm / inch	Weight Kg / lb.	Part No.	Remark
Bit with thread R38N	Steel cross bit	76 mm 3 inch	1.20 kg 2.64 lb.	38MR31176	Hardened cross bit for loose to medium dense conditions with small boulders
		90 mm 3.54 inch	1.40 kg 3.08 lb.	38MR31190	
	Steel arched bit	76 mm 3 inch	1.20 kg 2.64 lb.	38MR34176	Hardened arched bit for optimized geometry for unconsolidated soil with small boulders
	TC arched bit	115 mm 4.52 inch	2.85 kg 5.62 lb.	38MR342115	TC arched bit for optimized geometry for soft to medium rock formations
	TC cross bit	76 mm 3 inch	1.25 kg 2.75 lb.	38MR31276	TC cross bit for soft to medium rock formations
		90 mm 3.54 inch	1.45 kg 3.19 lb.	38MR31290	
	TC 3 cutter bit	76 mm 3 inch	0.85 kg 1.91 lb.	38MR33276	TC insert bit for soft to medium rock formations
	Steel button bit	76 mm 3 inch	1.0 Kg 2.20 lb.	38MR30176	Hardened button bit for unconsolidated rock with boulders
	TC button bit	76 mm 3 inch	1.0 Kg 2.20 lb.	38MR30276	TC insert button bit for medium rock formations

	Length Meter / Feet	Part No.
Bar R38	1 m / 3.28 ft.	38MR01
	2 m / 6.56 ft.	38MR02
	3 m / 9.84 ft.	38MR03
	4 m / 13.12 ft.	38MR04
	6 m / 19.68 ft.	38MR06

R38

Coupler R38	Diameter (mm) / inch	Length (mm) / inch	Weight Kg / Lb.	Part No
	51 mm / 2 inch	220 mm / 8.66 inch	1.70 KG / 3.75 LB.	38MR2251

Nut R38	Key size (mm) / inch	Length (mm) / inch	Weight Kg / Lb.	Part No
	50 mm / 1.96 inch	60 mm / 2.36 inch	0.4 kg / .88 LB.	38MR6050

Spherical nut R38	Key size (mm) / inch	Length (mm) / inch	Weight Kg / Lb.	Part No.
	55 mm / 2.16 inch	65 mm / 2.56 inch	0.90 KG / 1.98 lb.	38MR6555S

Anchor plate R38	Dimension (mm) / inch	Hole diameter (mm) / inch	Weight Kg / Lb.	Part No.
	200×200×10 mm 7.87 X 7.87 X .39 inch	40 mm / 1.57 inch	2.94 kg / 6.48 lb.	38MR1040
	200×200×12 mm 7.87 x 7.87 x .47 inch	40 mm / 1.57 inch	3.60 kg / 7.93 lb.	38MR1240



R51

	Description	R51 Size mm / inch	Weight Kg / Lb.	Part No.	Remark
Bit with Thread R51L& R51N	Steel cross bit	85 mm 3.34 inch	1.30 kg 2.86 lb.	51MR311085	Hardened cross bit for loose to medium dense conditions with small boulders
	TC cross bit	115 mm 4.52 inch	1.80 kg 3.96 lb.	51MR312115	TC cross bit for soft to medium rock formations
	Steel button bit	100 mm 3.93 inch	1.85 kg 4.07 lb.	51MR301100 51MR301115	TC insert button bit for unconsolidated rock with boulders
		115 mm 4.52 inch	2.00 kg 4.41 lb.		
	TC button bit	100 mm 3.93 inch	1.85 kg 4.07 lb.	51MR302100	TC insert button bit for medium rock formations

	Length Meter / Feet	Type	Part No.
Bar R51	1 m / 3.28 ft.	R51L R51N	51MR01
	2 m / 6.56 ft.	R51L R51N	51MR02
	3 m / 9.84 ft.	R51L R51N	51MR03
	4 m / 13.12 ft.	R51L R51N	51MR04
	6 m / 19.68 ft.	R51L R51N	51MR06

	Diameter mm / inch	Length mm / inch	Weight Kg / Lb.	Part No.
Coupler R51	63 mm / 2.48 inch	200 mm / 7.87 inch	1.90 kg / 4.19 lb.	51MR2063

	Key size (mm) / inch	Length (mm) / inch	Weight Kg / Lb.	Part No.
Nut R51	75 mm / 2.95 inch	70 mm / 2.75 inch	1.55 kg / 3.41 lb.	51MR7075

	Key size (mm) / inch	Length (mm) / inch	Weight Kg / Lb.	Part No.
Spherical nut R51	75 mm / 2.95 inch	70 mm / 2.75 inch	1.73 kg / 3.81 lb.	51MR7075S

	Dimension (mm) / inch	Hole diameter mm / inch	Weight Kg / Lb.	Part No.
Anchor plate R51	200×200×12 mm 7.87 x 7.87 x .47 inch	52.5 mm 2.06 inch	3.6 kg / 7.93 lb.	51MR1252

T30/11

	Description	T30 Size mm /inch	Weight Kg / Lb.	Part No.	Remark
Bit with Thread T30 /11	Hardened cross bit	42mm / 1.65 inch 46mm / 1.81 inch 51mm / 2.00 inch 76mm / 3.00 inch	0.30kg / 0.66 lb. 0.32kg / 0.71 lb. 0.40kg / 0.88 lb. 0.56kg / 1.23 lb.	30MT311042 30MT311046 30MT311051 30MT311076	Hardened cross bit for loose to medium dense ground conditions
	TC cross bit	42mm / 1.65 inch 46mm / 1.81 inch 51mm / 2.00 inch	0.30kg / 0.66 lb. 0.32kg / 0.71 lb. 0.40kg / 0.88 lb.	30MT312042 30MT312046 30MT312051	TC cross bit for soft to medium rock formations
	Hardened button bit	42mm / 1.65 inch 46mm / 1.81 inch 51mm / 2.00 inch	0.30kg / 0.66 lb. 0.32kg / 0.71 lb. 0.40kg / 0.88 lb.	30MT301042 30MT301046 30MT301051	Hardened button bit for unconsolidated rock with boulders
	TC button bit	46mm / 1.81 inch 51mm / 2.00 inch	0.45kg / 0.99 lb. 0.69kg / 1.52 lb.	30MT302046 30MT302051	TC button bit for medium rock formations

Bar T30/11	Length Meter / Feet	Part No.
	1 m long / 3.28 ft.	30MT01
	2 m long / 6.56 ft.	30MT02
	3 m long / 9.84 ft.	30MT03
	4 m long / 13.12 ft.	30MT04
	6 m long / 19.68 ft.	30MT06

Coupler T30	Diameter mm / inch	Length mm / inch	Part No.	Weight	
				(kg)	(lb.)
	42 mm / 1.65 inch	105 mm / 4.13 inch	30MT1042	0.6	1.32

Nut T30	Key size mm / inch	Length mm / inch	Part No.	Weight	
				(kg)	(lb.)
	46 mm / 1.81 inch	41 mm / 1.61 inch	30MT4146	0.35	0.77

T 40/16

	Description	T40 Size mm / inch	Weight Kg / Lb.	Part No.	Remark
Bit with Thread T40 /16	Hardened cross bit	76mm / 3.00 inch 90mm / 3.54 inch 100mm / 3.94 inch 115mm / 4.53 inch	0.90kg / 1.98 lb. 1.50kg / 3.30 lb. 1.65kg / 3.64 lb. 2.60kg / 5.73 lb.	40MT311076 40MT311090 40MT311100 40MT311115	Hardened cross bit for loose to medium dense ground conditions
	TC cross bit	76mm / 3.00 inch 90mm / 3.54 inch 100mm / 3.94 inch 115mm / 4.53 inch 130mm / 5.12 inch 150mm / 5.91 inch	1.20 kg / 2.65 lb. 1.75 kg / 3.86 lb. 2.00 kg / 4.41 lb. 2.80 kg / 6.17 lb. 3.10 kg / 6.83 lb. 5.00 kg / 11.02 lb.	40MT312076 40MT312090 40MT312100 40MT312115 40MT312130 40MT312150	TC cross bit for soft to medium rock formations
	Hardened button bit	76mm / 3.00 inch 90mm / 3.54 inch 100mm / 3.94 inch 115mm / 4.53 inch 130mm / 5.12 inch	1.15 kg / 2.54 lb. 1.68 kg / 3.70 lb. 2.15 kg / 4.74 lb. 2.30 kg / 5.07 lb. 3.15 kg / 6.94 lb.	40MT301076 40MT301090 40MT301100 40MT301115 40MT301130	Hardened button bit for unconsolidated rock with boulders
	TC button bit	70mm / 2.76 inch 76mm / 3.00 inch 90mm / 3.54 inch 115mm / 4.53 inch 130mm / 5.12 inch	1.78 kg / 3.92 lb. 1.40 kg / 3.09 lb. 2.00 kg / 4.41 lb. 2.80 kg / 6.17 lb. 4.92 kg / 10.85 lb.	40MT302070 40MT302076 40MT302090 40MT302115 40MT302130	TC button bit for medium rock formations

Bar T40/16	Length Meter / Feet	Part No.
	1 m long / 3.28 ft.	40MT01
2 m long / 6.56 ft.	40MT02	
3 m long / 9.84 ft.	40MT03	
4 m long / 13.12 ft.	40MT04	
6 m long / 19.68 ft.	40MT06	

Coupler T40	Diameter mm / inch	Length mm / inch	Part No.	Weight	
				(kg)	(lb.)
	57 mm / 2.24 inch	160 mm / 6.3 inch	40MT1657	1.7	3.75

Nut T40	Key size mm / inch	Length mm / inch	Part No.	Weight	
				Kg	Lb.
	68 mm / 2.67 inch	60 mm / 2.36 inch	40MT6068	0.95	2.09

T76

	Description	T76 Size mm / inch	Weight Kg / Lb.	Part No.	Remark
T76N & T76S	Steel cross bit	130 mm/EYS 5.11 inch/EYS	6.0 kg 13.23 LB.	76MT311130	Hardened drill bit with buttons for medium to dense soil and rock
	TC button bit	130 mm/EYSS 5.11 inch/EYSS	6.0 kg 13.23 lb.	76MT302130S	Same as above but with TC-inserts
	TC button bit	130mm/ESS-F 5.11 inch/ ESS-F	6.0 kg 13.23 lb.	76MT302130F	Button bit with TC-inserts for medium to hard rock formations

	Length		Type
	Meter / Feet		
Bar T76	1 m / 3.28 ft.		T76L T76N
	2 m / 6.56 ft.		T76L T76N
	3 m / 9.84 ft.		T76L T76N
	4 m / 13.12 ft.		T76L T76N
	6 m / 19.68 ft.		T76L T76N

Coupler T76	Diameter mm / inch	Length mm / inch	Weight Kg / Lb.	Part No.
	97 mm / 3.81 inch	220 mm / 8.66 inch	4.70 kg / 10.36 lb.	76MT2297

Nut T76	Key size mm / inch	Length mm / inch	Weight Kg / Lb.	Part No.
	100 mm / 3.93 inch	80 mm / 3.15 inch	2.70 kg / 5.95 lb.	76MT8010

Anchor plate T76	Dimension mm / inch	Hole diameter mm / inch	Weight Kg / Lb.	Part No.
	250×250×40 mm 9.84"×9.84"×1.57"	80 mm / 3.15 inch	18 kg / 39.7 LB.	76MT4080
	250×250×60 mm 9.84"×9.84"×2.36"	80 mm / 3.15 inch	27 kg / 59.5 LB.	76MT6080



Kemaico USA Corporation

Add: 300 Knightsbridge Pkwy Ste. 113
Lincolnshire, IL 60069
Tel: 1-847-913-6878 Fax: 1-847-913-6879
Email: office@kemaico.com
Web: www.kemaico.com