





Company Profile

Handan Tedun Fastener Group Co., Ltd. (hereinafter referred to as "Tedun") is a high-tech enterprise and specialized innovative company dedicated to the R&D, manufacturing, and sales of construction anchor products. Equipped with advanced production facilities and a monthly production capacity of 20 million units, the company remains committed to providing high-quality construction anchor products and technical consulting services.

The company has obtained ISO 9001:2015, ISO 14001:2015, and ISO 45001:2018 certifications for quality, health, and environmental management systems. With a well-equipped quality inspection laboratory, Tedun's construction anchor series have passed evaluations by both the National Construction Engineering Quality Supervision and Inspection Center and the National Building Materials Testing Center.

Brand Commitment: Choosing Tedun means more than just acquiring safe products. We prioritize customer support and service enhancement to maximize client benefits. When it comes to product safety, we make no compromises. Tedun products, backed by various certifications and premium quality, deliver innovative anchoring solutions for both professional and general clients. Through strict process control and rigorous quality management, we ensure product reliability. In recent years, Tedun-branded construction anchors have earned an excellent market reputation and gained widespread user trust.

Leveraging robust capabilities, modern management, and comprehensive after-sales services, Tedun adheres to the corporate ethos of "pragmatic innovation, technology-driven development, and continuous growth." Guided by the principle of wholehearted customer service, we believe Tedun will become your trusted partner. Embracing the philosophy of sincere service, Tedun will advance alongside China's industrial development, collaborating with industry peers to achieve mutual success and create remarkable accomplishments.





➤ Product description

EP1000 is a chemical anchoring injection system consisting of two components in a 3:1 ratio. It is made from pure epoxy with exceptional bond strength and is primarily designed to anchor threaded rods and reinforcing bars into concrete. It is commonly used in high-performance structural applications where the load is critical.

Main constituent	Pure epoxy resin
Appearance (uncured)	Paste
Colour	Pink or gray
Viscosity	Thixotropic, high
Ratio (Part A:Part B)	3:1

Applications:

Heavy duty fastenings in cracked and uncracked concrete: Steel structures, railings, base plates, supports, brackets, facade structures, sanitary devices, consoles, beams, cable trays, piping, post installed rebar connections (reconstruction or reinforcement) etc.

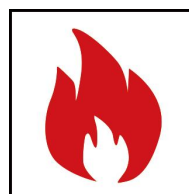
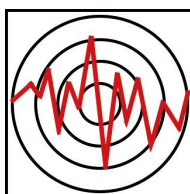
Fastenings with rebar in cracked and uncracked concrete with shear force: Shear connectors, wall connecting reinforcement concrete joints.

Features:

- Dry, wet and flooded holes
- Temperature range: from -40°C to +72°C (long term maximum temperature +50°C)
- For very high loads
- High chemical resistance
- Usable in percussion drilled and diamond drilled holes
- Cures down to -5°C
- 100 years working life
- Styrene free formulation (SF)
- For heavy anchoring - doweling and post-installed rebar connection
- Odourless and VOC content (A+)
- Suitable for seismic actions of requirement levels C1 & C2

Low shrinkage: suitable for larger annular gaps

- Fixings in concrete, wood, or other high strength materials



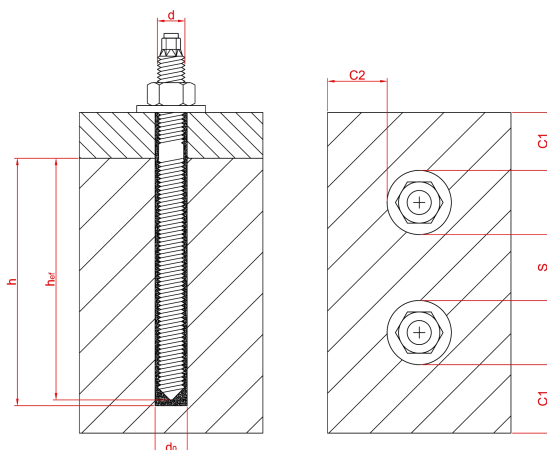
Working and loading time

Working time is typical gel time at the highest temperature of the given range.

Loading time is setting time at the lowest temperature of the given range.

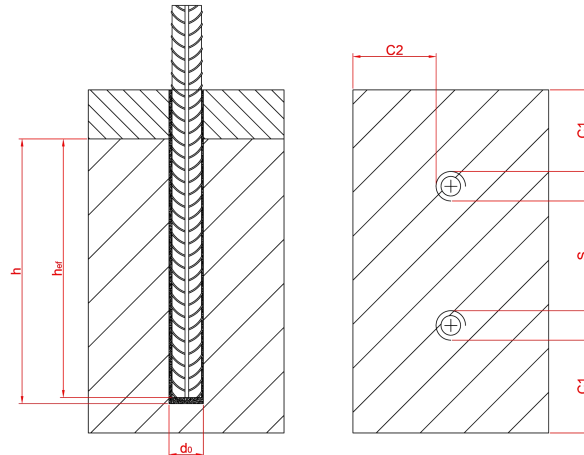
Temperature of base material	Temperature of cartridge	Maximum working time (min) t_{work}	Minimum curing time (h) t_{load} or t_{cure}
-5°C ~ -1°C	+5°C	120	168
0°C ~ +4°C	+5°C	120	48
+5°C ~ +9°C	+5°C ~ +9°C	120	24
+10°C ~ +14°C	+10°C ~ +14°C	90	16
+15°C ~ +19°C	+15°C ~ +19°C	60	12
+20°C ~ +24°C	+20°C ~ +24°C	30	7
+25°C ~ +29°C	+25°C ~ +29°C	20	6
+30°C ~ +34°C	+30°C ~ +34°C	15	5
+35°C ~ +40°C	+35°C ~ +40°C	12	4.5

Installation Parameters



Installation parameter - Threaded Rod													
Anchor size			M8	M10	M12	M16	M20	M24	M27	M30	M33	M36	M39
Diameter of anchor	d	mm	8	10	12	16	20	24	27	30	33	36	39
Nominal diameter of drill bit	d ₀	mm	10	12	14	18	22	28	30	35	37	40	42
Diameter of clearance hole in the fixture (≤)	d _f	mm	9	12	14	18	22	26	30	33	36	39	42
Diameter of steel brush	d _b	mm	12	14	16	20	24	30	32	37	40	44	47
Minimum effective anchorage depth	h _{ef,min}	mm	60	60	70	80	90	96	108	120	132	144	156
Effective anchorage depth	h _{ef}	mm	80	90	110	125	170	210	240	270	300	330	360
Maximum effective anchorage depth	h _{ef,max}	mm	160	200	240	320	400	480	540	600	660	720	780
Minimum thickness of the concrete member	h _{min}	mm	h _{ef} +30mm≥100mm				h _{ef} +2d ₀						
Nominal torque moment	T _{inst}	Nm	10	20	40	80	150	200	270	300	330	360	390
Minimum spacing	S _{min}	mm	40	50	60	75	90	115	120	140	165	180	195
Minimum edge distance	C _{min}	mm	40	45	45	50	55	60	75	80	165	180	195

Installation Parameters



Installation parameter -Reinforcing bar															
Anchor size			φ8	φ10	φ12	φ14	φ16	φ20	φ24	φ25	φ28	φ30	φ32	φ36	φ40
Diameter of anchor	d	mm	8	10	12	14	16	20	24	25	28	30	32	36	40
Nominal diameter of drill bit	d ₀	mm	10 12	12 14	14 16	18	20	25	30 32	30 32	35	37	40	45	50
Diameter of clearance hole in the fixture (≤)	d _f	mm	10 12	12 14	14 16	18	20	25	32	32	35	37	40 42	45	50
Minimum effective anchorage depth	h _{ef,min}	mm	60	60	70	75	80	90	96	100	112	120	128	144	240
Effective anchorage depth	h _{ef}	mm	80	90	110	125	125	170	190	210	270	270	300	330	360
Maximum effective anchorage depth	h _{ef,max}	mm	160	200	240	280	320	400	480	500	560	600	640	720	800
Minimum thickness of the concrete member	h _{min}	mm	h _{ef} +30mm≥100mm			h _{ef} +2d ₀									
Minimum spacing	S _{min}	mm	40	50	60	70	80	100	125	125	140	150	160	180	200
Minimum edge distance	C _{min}	mm	40	45	45	50	50	65	70	70	75	80	80	180	200



Load values-Characteristic Resistance -Threaded bar

Characteristic resistance values to tension load - threaded rod (Service life of 50 years)										
Steel Failure -Characteristic resistance										
Size			M8	M10	M12	M16	M20	M24	M27	M30
Steel grade 5.8	N _{Rk,s}	kN	18	29	42	78	122	176	228	280
Partial safety factor	γ _{Ms}	-	1.5							
Steel grade 8.8	N _{Rk,s}	kN	29	46	67	126	196	282	367	449
Partial safety factor	γ _{Ms}	-	1.5							
Steel grade 10.9	N _{Rk,s}	kN	37	58	84	157	245	353	459	561
Partial safety factor	γ _{Ms}	-	1.4							
Steel grade 12.9	N _{Rk,s}	kN	44	70	101	188	294	424	551	673
Partial safety factor	γ _{Ms}	-	1.4							
Stainless Steel grade A4-70	N _{Rk,s}	kN	26	41	59	110	172	247	321	393
Partial safety factor	γ _{Ms}	-	1.87							
Stainless Steel grade A4-80	N _{Rk,s}	kN	29	46	67	126	196	282	367	449
Partial safety factor	γ _{Ms}	-	1.6							
High corrosion resistance Grade 70 steel	N _{Rk,s}	kN	26	41	59	110	172	247	321	393
Partial safety factor	γ _{Ms}	-	1.87							
Characteristic resistance values to tension load - threaded rod (Service life of 100 years)										
Steel Failure -Characteristic resistance										
Size			M8	M10	M12	M16	M20	M24	M27	M30
Steel grade 5.8	N _{Rk,s}	kN	18	29	42	78	122	176	228	280
Partial safety factor	γ _{Ms}	-	1.5							
Steel grade 8.8	N _{Rk,s}	kN	29	46	67	126	196	282	367	449
Partial safety factor	γ _{Ms}	-	1.5							
Steel grade 10.9	N _{Rk,s}	kN	37	58	84	157	245	353	459	561
Partial safety factor	γ _{Ms}	-	1.4							
Steel grade 12.9	N _{Rk,s}	kN	44	70	101	188	294	424	551	673
Partial safety factor	γ _{Ms}	-	1.4							
Stainless Steel grade A4-70	N _{Rk,s}	kN	26	41	59	110	172	247	321	393
Partial safety factor	γ _{Ms}	-	1.87							
Stainless Steel grade A4-80	N _{Rk,s}	kN	29	46	67	126	196	282	367	449
Partial safety factor	γ _{Ms}	-	1.6							
High corrosion resistance Grade 70 steel	N _{Rk,s}	kN	26	41	59	110	172	247	321	393
Partial safety factor	γ _{Ms}	-	1.87							

Characteristic resistance values to shear load -threaded rod

Steel Failure - Without Lever Arm

Size			M8	M10	M12	M16	M20	M24	M27	M30
Steel grade 5.8	$V^{\circ}R_{k,s}$	kN	7	11	15	28	43	62	80	99
Partial safety factor	γ_{Ms}	-	1.25							
Ductility factor	k_7	-	0.8							
Steel grade 8.8	$V^{\circ}R_{k,s}$	kN	10	16	24	44	69	99	129	157
Partial safety factor	γ_{Ms}	-	1.25							
Ductility factor	k_7	-	0.8							
Steel grade 10.9	$V^{\circ}R_{k,s}$	kN	13	20	30	55	86	124	161	196
Partial safety factor	γ_{Ms}	-	1.5							
Ductility factor	k_7	-	0.8							
Steel grade 12.9	$V^{\circ}R_{k,s}$	kN	15	24	35	66	103	148	193	236
Partial safety factor	γ_{Ms}	-	1.5							
Ductility factor	k_7	-	0.8							
Stainless Steel grade A4-70	$V^{\circ}R_{k,s}$	kN	9	14	21	39	60	87	113	137
Partial safety factor	γ_{Ms}	-	1.56							
Ductility factor	k_7	-	0.8							
Stainless Steel grade A4-80	$V^{\circ}R_{k,s}$	kN	10	16	24	44	69	99	129	157
Partial safety factor	γ_{Ms}	-	1.33							
Ductility factor	k_7	-	0.8							
High corrosion resistance Grade 70 steel	$V^{\circ}R_{k,s}$	kN	9	14	21	39	60	87	113	137
Partial safety factor	γ_{Ms}	-	1.56							
Ductility factor	k_7	-	0.8							

Steel Failure - With Lever Arm

Steel grade 5.8	$M^{\circ}R_{k,s}$	Nm	19	38	66	1166	325	5611	832	1125
Partial safety factor	γ_{Ms}	-	1.25							
Steel grade 8.8	$M^{\circ}R_{k,s}$	Nm	30	60	105	266	519	898	1331	1799
Partial safety factor	γ_{Ms}	-	1.25							
Steel grade 10.9	$M^{\circ}R_{k,s}$	Nm	377	75	131	333	649	1123	1665	2249
Partial safety factor	γ_{Ms}	-	1.5							
Steel grade 12.9	$M^{\circ}R_{k,s}$	Nm	45	90	157	400	779	1347	1998	2699
Partial safety factor	γ_{Ms}	-	1.5							
Stainless Steel grade A4-70	$M^{\circ}R_{k,s}$	Nm	26	52	92	233	455	786	1165	1574
Partial safety factor	γ_{Ms}	-	1.56							
Stainless Steel grade A4-80	$M^{\circ}R_{k,s}$	Nm	30	60	105	266	519	898	1332	1799
Partial safety factor	γ_{Ms}	-	1.33							
High corrosion resistance Grade 70 steel	$M^{\circ}R_{k,s}$	Nm	26	52	92	233	454	786	1165	1574
Partial safety factor	γ_{Ms}	-	1.56							



Load values-Characteristic Resistance-Rebar

Characteristic resistance values to tension load - Rebar (Service life of 50 years)														
Steel Failure -Characteristic resistance														
Size			φ8	φ10	φ12	φ14	φ16	φ18	φ20	φ24	φ25	φ28	φ30	φ32
Rebar Grade BST420	N _{Rk,s}	kN	21	33	47	65	84	107	132	190	206	259	297	338
Partial safety factor	γ _{Ms}	-	1.5											
Rebar Grade BST430	N _{Rk,s}	kN	22	34	49	66	86	109	135	194	211	265	304	346
Partial safety factor	γ _{Ms}	-	1.5											
Rebar Grade BST480	N _{Rk,s}	kN	24	38	54	74	96	122	151	2117	136	296	339	386
Partial safety factor	γ _{Ms}	-	1.5											
Rebar Grade BST500	N _{Rk,s}	kN	25	40	57	77	101	127	157	226	246	308	354	402
Partial safety factor	γ _{Ms}	-	1.5											
Rebar Grade BST550	N _{Rk,s}	kN	28	43	62	85	111	140	1773	249	2770	339	389	442
Partial safety factor	γ _{Ms}	-												
Characteristic resistance values to tension load - Rebar (Service life of 100 years)														
Steel Failure -Characteristic resistance														
Size			φ8	φ10	φ12	φ14	φ16	φ18	φ20	φ24	φ25	φ28	φ30	φ32
Rebar Grade BST420	N _{Rk,s}	kN	21	33	47	65	84	107	132	190	206	259	297	338
Partial safety factor	γ _{Ms}	-	1.5											
Rebar Grade BST430	N _{Rk,s}	kN	22	34	49	66	86	109	135	194	211	265	304	346
Partial safety factor	γ _{Ms}	-	1.5											
Rebar Grade BST480	N _{Rk,s}	kN	24	38	54	74	96	122	151	2117	136	296	339	386
Partial safety factor	γ _{Ms}	-	1.5											
Rebar Grade BST500	N _{Rk,s}	kN	25	40	57	77	101	127	157	226	246	308	354	402
Partial safety factor	γ _{Ms}	-	1.5											
Rebar Grade BST550	N _{Rk,s}	kN	28	43	62	85	111	140	1773	249	2770	339	389	442
Partial safety factor	γ _{Ms}	-												
Characteristic resistance values to shear load - Rebar														
Steel Failure - Without Lever Arm														
Size			φ8	φ10	φ12	φ14	φ16	φ18	φ20	φ24	φ25	φ28	φ30	φ32
Characteristic resistance	V ^o _{Rk,s}	kN	0.5×A _s ×f _{uk} ①											
Cross section Area	A _s	mm ²	50	79	1113	154	201	254	314	452	491	616	707	804
Partial safety factor	γ _{Ms}	-	1.5											
Ductility factor	k ₇	-	1.0											
Steel Failure - With Lever Arm														
Characteristic bending moment	M ^o _{Rk,s}	kN	1.2×W _{el} ×f _{uk} ①											
Cross section Area	A _s	mm ²	50	79	1113	154	201	254	314	452	491	616	707	804
Partial safety factor	γ _{Ms}	-	1.5											

① f_{uk} shall be taken from the specification of rebar

Load values-Characteristic Resistance -Threaded bar(Seismic performance class C1)

Steel Failure -Characteristic resistance(Service life of 50 years)										
Steel Failure -Characteristic resistance										
Size			M8	M10	M12	M16	M20	M24	M27	M30
Steel grade 5.8	$N_{Rk,s, C1}$	kN	18	29	42	78	122	176	228	280
Partial safety factor	γ_{Ms}	-	1.5							
Steel grade 8.8	$N_{Rk,s, C1}$	kN	29	46	67	126	196	282	367	449
Partial safety factor	γ_{Ms}	-	1.5							
Steel grade 10.9	$N_{Rk,s, C1}$	kN	37	58	84	157	245	353	459	561
Partial safety factor	γ_{Ms}	-	1.4							
Steel grade 12.9	$N_{Rk,s, C1}$	kN	44	70	101	188	294	424	551	673
Partial safety factor	γ_{Ms}	-								
Stainless Steel grade A4-70	$N_{Rk,s, C1}$	kN	26	41	59	110	172	247	321	393
Partial safety factor	γ_{Ms}	-	1.87							
Stainless Steel grade A4-80	$N_{Rk,s, C1}$	kN	29	46	67	126	196	282	367	449
Partial safety factor	γ_{Ms}	-	1.6							
High corrosion resistance Grade 70 steel	$N_{Rk,s, C1}$	kN	26	41	59	110	172	247	321	393
Partial safety factor	γ_{Ms}	-	1.87							
Steel Failure -Characteristic resistance(Service life of 100 years)										
Steel Failure -Characteristic resistance										
Size			M8	M10	M12	M16	M20	M24	M27	M30
Steel grade 5.8	$N_{Rk,s, C1}$	kN	18	29	42	78	122	176	228	280
Partial safety factor	γ_{Ms}	-	1.5							
Steel grade 8.8	$N_{Rk,s, C1}$	kN	29	46	67	126	196	282	367	449
Partial safety factor	γ_{Ms}	-	1.5							
Steel grade 10.9	$N_{Rk,s, C1}$	kN	37	58	84	157	245	353	459	561
Partial safety factor	γ_{Ms}	-	1.4							
Steel grade 12.9	$N_{Rk,s, C1}$	kN	44	70	101	188	294	424	551	673
Partial safety factor	γ_{Ms}	-								
Stainless Steel grade A4-70	$N_{Rk,s, C1}$	kN	26	41	59	110	172	247	321	393
Partial safety factor	γ_{Ms}	-	1.87							
Stainless Steel grade A4-80	$N_{Rk,s, C1}$	kN	29	46	67	126	196	282	367	449
Partial safety factor	γ_{Ms}	-	1.6							
High corrosion resistance Grade 70 steel	$N_{Rk,s, C1}$	kN	26	41	59	110	172	247	321	393
Partial safety factor	γ_{Ms}	-	1.87							
Characteristic resistance values to shear load(Service life of 100 years) - Threaded bar										
Steel Failure										
Characteristic Shear Resistance	$V_{Rk,eq,C1,100}$	kN	$0.7 \times V^0_{Rk,s}$							
Partial safety factor	γ_{Ms}	-	Refer to table 【Characteristic resistance values to shear load -threaded rod】							



Load values-Characteristic Resistance - Rebar(Seismic performance class C1)

Characteristic resistance values to tension load - Rebar (Service life of 50 years)														
Steel Failure -Characteristic resistance														
Size			φ8	φ10	φ12	φ14	φ16	φ18	φ20	φ24	φ25	φ28	φ30	φ32
Characteristic tensile value	N _{Rk,s, C1}	kN	0.5×A _s ×f _{uk} ①											
Cross section Area	A _s	mm ²	50	79	113	154	201	254	314	452	491	616	707	804
Partial safety factor	γ _{M_s}	-	1.5											
Steel failure, characteristic value														
Characteristic shear value	V _{Rk,s, C1}	kN	0.35×A _s ×f _{uk}											
Cross section Area	A _s	mm ²	50	79	113	154	201	254	314	452	491	616	707	804
Partial safety factor	γ _{M_s}	-	1.5											

① f_{uk} shall be taken from the specification of rebar

Characteristic resistance values to tension load - Rebar (Service life of 100 years)														
Steel Failure -Characteristic resistance														
Size			φ8	φ10	φ12	φ14	φ16	φ18	φ20	φ24	φ25	φ28	φ30	φ32
Characteristic tensile value	N _{Rk,s, C1}	kN	0.5×A _s ×f _{uk} ①											
Cross section Area	A _s	mm ²	50	79	113	154	201	254	314	452	491	616	707	804
Partial safety factor	γ _{Ms}	-	1.5											
Characteristic values of shear load - Rebar (Service life of 100 years)														
Steel failure, characteristic value														
Characteristic shear value	V _{Rk,s, C1}	kN	0.35×A _s ×f _{uk} ①											
Cross section Area	A _s	mm ²	50	79	113	154	201	254	314	452	491	616	707	804
Partial safety factor	γ _{Ms}	-	1.5											

① f_{uk} shall be taken from the specification of rebar

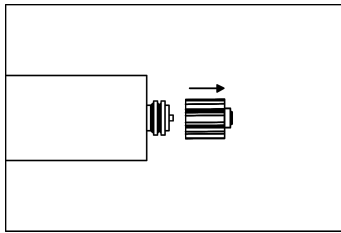
Load values-Characteristic Resistance -Threaded bar(Seismic performance class C2)

Class C2

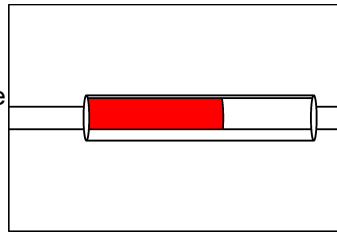
Load values-Characteristic Resistance -Threaded bar(Service life of 50 years and 100 years)						
Steel Failure -Characteristic resistance						
Size			M12	M16	M20	M24
Steel grade 5.8	$N_{Rk,eq, C2}$	kN	$1.0 \times N_{Rk,s}$			
Partial safety factor	γ_{Ms}	-	Refer to table- 【Characteristic resistance values to tension load - threaded rod (Service life of 50 years)】			
Characteristic values of shear load - Threaded bar(Service life of 50 years and 100 years)						
Steel Failure						
Characteristic values of shear load	$V_{Rk,eq,C1,50}$	kN	$0.7 \times V^0 R_{k,s}$			
Partial safety factor	γ_{Ms}	-	Refer to table 【Characteristic resistance values to shear load -threaded rod】			

Directions for use

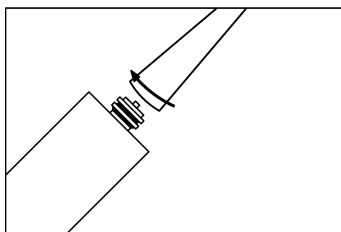
Cartridge preparation



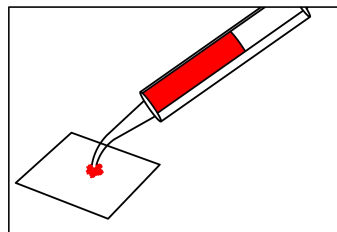
1) Open the cap at the tip of the cartridge.



2) Place the cartridge into application gun.

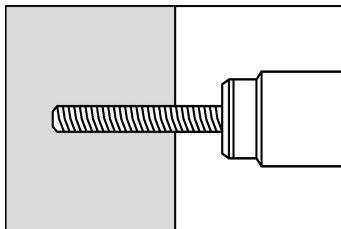


3) Place mixing nozzle to the cartridge (Screw down and tight)

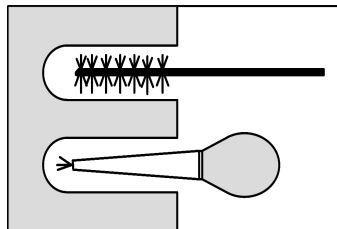


4) Extrude the product by 10cm to ensure homogenous mixing

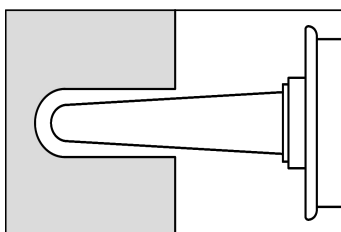
Application of the product



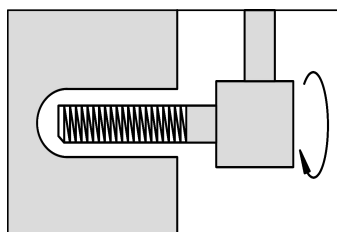
1) Choose the drill bit suitable for the diameter of the anchor shown in consumption table



2) Clean inside of the hole with air pump or brush.



3) Fill 2/3 of the hole by injecting Chemical Anchor.



4) Place anchoring bar by rotating. Spare resin must overflow out of the hole.



Packaging

Cartridge	Pieces in a box	Pieces on a wooden pallet
500ml	12	432
585ml	12	672

- For each cartridge, there are two static mixers in the box.



Storage and shelf life

Keep product in its original container at 22°C and avoid contacting with direct sunlight. Storage below 5°C and above 30°C can negatively affect product properties.

Material removed from its original container can be contaminated during usage which affects both adhesive performance and storage life. Therefore, do not return contaminated product to the original container.

We cannot take any responsibility for product which has been contaminated or stored under conditions different than previously indicated.

Shelf life: 24 months at +5 to +30°C



Health and safety

For further information, please consult Safety Data Sheet (SDS) before use.



Disclaimer

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