



## IE-2000 TECHNICAL DATA SHEET

### PRODUCT

Good Use IE-2000 its high haul strength, special application to wet holes and diamond drilling, excellent in acid-resisting, alkali-resisting.

### PRODUCT CODE

- IE-2000 Injection Cartridge 10:1 two components
- Vinylester resin styrene free
- Available size: 150ml (single tube), 235ml, 345ml, 360ml (side by side cartridge) and 380ml (Co-axial cartridge).



### DESCRIPTION

IE-2000 is a high performance, rapid curing two part chemical anchoring system based on epoxy acrylate. Applied in one single action this resin will produce a cost effective, strong, chemical resistant fixing.

IE-2000 provides rapid cure with adequate working time in temperate climates.

### APPLICATION

- Fixing machines, handrails, steel constructions, and reinforcement bars.
- Threaded Studs, Hollow masonry sleeves, threaded inserts, steel columns
- Medium & Heavy-duty load applications, over-head installation.
- High durability.
- Ideal for outdoor usage, Road stitching

### PRODUCT FEATURES

- Medium & heavy-duty load applications.
- Quick setting and curing time.
- Easy and quick use.
- Suitable for dry fastening.
- Suitable for wall and overhead application.
- Reduced anchor spacing and edge distance.
- Variety of cartridge sizes are available.
- Partially used cartridges can re-used by replacing the mixer nozzle.
- Good resistance to acid and alkali
- High durability
- Can be used with wet concrete (Reduction of recommended loads of about 20%-40%).



IE-2000

STATIC MIXER #817



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### ATTENTION

- Do not install anchors when substrate temperature is less than 0°C.
- Do not install anchors when the IE-2000 mortar temperature is less than 15°C.
- AT temperatures below 15°C IE-2000 should be warmed or stored in temperatures of 20-25°C for 24 hours prior to use to improve product flow and cure.
- If the gelling time expires, please use a new static mixer.
- Do not cut or shorten nozzles.
- If the cartridge is not finished, please clean the opening, then put the plug back and cap tightly.
- It can be used again in the future by replacing the static mixer.
- Please ensure hole is properly cleaned. Hole may be damp but must be free from water.
- Do not dilute mortar with any solvents and/or other chemicals.
- Not suitable for use in diamond cored holes without roughening.
- Please ensure spiral mixer in nozzles.
- Do not install into uncured concrete.
- Please use Good Use nozzles, other nozzles may cause ineffective mixing and reduce the properties of the mortar.

### ACCESSORIES

- Static mixer #817.
- Caulking gun #807-N for 380ml co-axial cartridge and #811-N for 235ml/345ml/360ml side by side cartridges.
- 150ml cartridge can apply with silicon gun.
- Caulking gun #215-IHR for 150ml and 300ml

### STORAGE/SHELF LIFE

- 150ML/235ML/345ML/360ML and 380ML is available 18 months if stored in perfect condition.
- Avoid direct sunlight.
- This product should be stored between +5°C~+25°C

### PACKAGING INFORMATION

- Each cartridge is packed in plastic bag with 1 static mixer #817.
- Standard package: 20pcs in 1 export carton.
- Different package is available: we can do the package per clients' request.



#807 380ML  
CAULKING GUN



G34-380  
CAULKING GUN



#811 CAULKING GUN  
FOR 235ML, 280ML, 345ML, 360ML



#215-IHR CAULKING GUN



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### INSTALLATION INSTRUCTIONS

1. Drill hole using correctly sized rotary hammer drill bit to the specified depth.



2. Blow out dust with clean air.



3. Clean hole with cleaning brush with stiff nylon or wire bristles.



4. Blow out remaining dust.



5. Open top of cartridges.



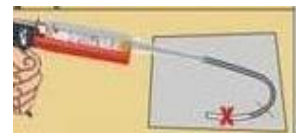
6. Take of red stopper from top.



7. Use Good Use nozzles after remove red stopper from the cartridge and attach the mixing nozzles, please screw down tight.



8. Please put assembled cartridge into the caulking gun. Screw mixing nozzle onto cartridge and dispense 2-3 trigger pulls of adhesive to waste until color is grey with no streaks.





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9. Open the valve. Squeeze the handle so the mortar is dispensed out of the nozzle until an even, uniform light grey color is achieved. Before a new cartridge is introduced into the hole, dispense the first 10ml or so to waste until mix is even on color(grey) as well. Because initial flow should be disposed of into empty packaging or similar materials. Inject resin into hole, starting from the bottom of hole. The mortar must be injected without creating air pockets.



10. Insert studs or anchors, push the stud into the hole using a slow twisting motion. Wipe away the excess material. Anchor or stud need to be clean and oil-free.



11. Please do not touch studs or anchor until mixture has gelled and do not load the anchor until curing is complete as per chart 1. curing time table.



**CHART 1. CURING TIME TABLE**

Temperature (°C)	Gelling Time	Full Curing Time
5	90 min.	8 hr.
10	40 min.	4 hr.
20	18 min.	1.5 hr.
30	9 min.	1 hr.
40	6 min.	1 hr.

Please make pull out test over 24 hours after full cured. Kindly reminding temperature below 15°C the mortar must be conditioned to a minimum of 15°C.



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**CHART 2. SOLID SUBSTRATE REBAR INSTALLATION DETAILS**

Pressure		Destroy Haul Strength (Kgf / KN)		Safety Haul Strength (Kgf / KN)		Working Standard (mm)		
Concrete Strength		4,000 psi	280 kg/cm2	4,000 psi	280 kg/cm2	Hole Diameter	Hole Depth	
Rebar No.	# 3	(Φ10)	3,540	35.8	1,180	11.9	13	90
	# 4	(Φ13)	5,480	55.4	1,827	18.5	16	120
	# 5	(Φ16)	9,060	91.5	3,020	30.5	20	145
	# 6	(Φ19)	14,150	142.9	4,717	47.6	25	170
	# 7	(Φ22)	18,630	188.2	6,210	62.7	28	200
	# 8	(Φ25)	23,195	234.3	7,732	78.1	32	225
	# 9	(Φ29)	25,340	256.0	8,447	85.3	37	250
	# 10	(Φ32)	32,120	324.4	10,707	108.1	40	290

Remarks: 1. Concrete Strength  $f_c'$ : 280kg/cm2 (4,000 psi)  
 2. Rebar Strength: #3~#5  $f_y$ : 2,800 kgf/cm2, #6~#11  $f_y$ = 4,200 kgf/cm2

**CHART 3. REBAR EDGE DISTANCES AND TESTING**

EDGE DISTANCE REDUCTION FACTOR								
TENSILE LOAD								
EDGE DISTANCE(MM)	REBAR							
	CONCRETE 3000Psi/20Mpa							
	#3(Φ10)	#4(Φ12)	#5(Φ16)	#6(Φ20)	#7(Φ22)	#8(Φ25)	#9(Φ29)	#10(Φ30)
50	0.57							
60	0.64							
70	0.73		0.54					
80	0.77	0.62	0.58					
90	0.87	0.64	0.64	0.56				
100		0.73	0.70	0.58	0.55			
110		0.82	0.76	0.63	0.57			
120		0.86	0.82	0.64	0.60	0.54		
140			0.88	0.72	0.64	0.59		
160				0.82	0.76	0.64	0.54	
180				0.89	0.82	0.73	0.57	0.57
200					0.86	0.76	0.68	0.56
220						0.82	0.73	0.64
240						0.85	0.83	0.71
260							0.87	0.74
280								0.81
300								0.87

Note: The required specification(s) offered in this report are for reference only. The conformity judgement is at the Applicant's final verdict.



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**CHART 4. SOLID SUBSTRATE THREAD ROD INSTALLATION DETAILS**

Pressure		Destroy Haul Strength (Kgf / KN)		Safety Haul Strength (Kgf / KN)		Working Standard (mm)	
Concrete Strength		4,000 psi	280 kg/cm2	4,000 psi	280 kg/cm2	Hole Diameter	Hole Depth
Thread Rod No.	M8	2,550	25.8	850	8.6	10	80
	M10	3,455	34.9	1,152	11.6	13	90
	M12	5,403	54.6	1,801	18.2	16	120
	M16	6,303	63.7	2,101	21.2	20	145
	M20	8,104	81.9	2,701	27.3	25	170
	M24	15,655	158.1	5,218	52.7	28	210
	M30	31,290	316.1	10,430	105.4	35	270
	M36	44,300	447.5	14,767	149.2	40	330

**CHART 5. THREAD ROD EDGE DISTANCES AND TESTING**

SPACING REDUCTION FACTOR								
TENSILE LOAD								
EDGE (Min) DISTANCE(MM)	THREAD ROD							
	CONCRETE 3000psi/20Mpa							
	M8	M10	M12	M16	M20	M24	M30	M36
50	0.57							
60	0.66							
70	0.73		0.54					
80	0.79	0.62	0.58					
90	0.87	0.66	0.64	0.56				
100		0.73	0.71	0.56	0.54			
110		0.82	0.76	0.61	0.57			
120		0.88	0.82	0.64	0.61	0.53		
140			0.86	0.70	0.64	0.58		
160				0.82	0.76	0.62	0.54	
180				0.85	0.83	0.65	0.57	0.55
200					0.86	0.76	0.68	0.57
220						0.82	0.72	0.64
240						0.87	0.81	0.71
260							0.85	0.73
280								0.81
300								0.86

Note: The required specification(s) offered in this report are for reference only. The conformity judgement is at the Applicant's final verdict.



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**CHART 6. FIXINGS PER CARTRIDGE**

Anchor Size	Hole Diameter (mm)	Hole Depth (mm)	Number of Fixings				
			235ML	280ML	345ML	360ML	380ML
M8	10	80	47	56	69	72	76
M10	12	90	29	34	42	44	47
M12	14	110	17	21	25	27	28
M16	18	125	9	11	14	14	15
M20	24	170	4	5	6	6	6
M24	28	210	2	3	3	4	4
M30	35	270	1	1	2	2	2
M36	40	330	1	1	1	1	1

Note: Based on continuous installation without interruptions or nozzle changes. Provided as a guide and will vary with temperature.

### IMPORTANT

The information and data given is based on our own experience, research and testing and is believed to be reliable and accurate. However, as Good Use products cannot know the varied uses to which its products may be applied, or the methods of application used, no warranty as to the fitness or suitability of its products is given or implied. It is the user's responsibility to determine suitability of use. For further information please contact our Technical Department.