

# Unique and reliable undercut anchor system. Easy and reliable installation.

Drill a primary hole









Install an anchor







# ANZEX Undercut Anchor System





### **Features**

- Total post-installed anchor system for secure anchor work.
- Using our specialized Undercutter enables to undercut with easy and reliable operation.
- Prevent anchor bolt from slip by mechanical interlock.
- Large contact surface at the undercut area ensures secure anchoring even in low-strength concrete.(Even if the cracks occur on the concrete around working area, reduction in anchoring performance is minimalized)
- The embedment depth of anchor bolt is designed to bear the characteristic steel yield strength. Anchor bolt can be designed with "steel failure".
- Anchor bolt materials : grade 4.6 / grade 8.8 / SUS316

### For use in

Various anchor works.

### **Specification**

See specification of ANZEX bolts. (P5)











- 1. Insert an undercutter until it reachs the bottom of the primary hole.
- 2. Once the drilling machine is started, the cutter blade is expanded.
- 3. Undercutter makes a conical hole in the primary hole.





### 'isual confirmation" realizes reliable installation.

Each step of anchor installation can be visually confirmed with using our specialized tools. Visual confirmation ensures reliable installation.



## Realize the reliable anchor installation with unique ANZEX Anchor System. Efficient installation in non-cracked and cracked concrete and the tension area where tensile load is always applied.

Reliable anchor installation by mechanical interlock. Reliable operation (visual control) with using our specialized ANZEX tools. Secure installed anchor in concrete ensures high reliaility.

## Installation Procedure (You can visually confirm each process)





Setting tool Anchor bolt Undercutt gauge Undercutter Perpendicular gauge

Primary hole bit

Installed anchor

ndercut	<b>7</b> Install an anchor bolt	8 Fixing
ut.	Anchor bolt is expanded with setting tool.	Complete all process after tightening nuts.
ercut	<ul> <li></li> <li><!--</td--><td></td></li></ul>	
f Undercut undercut is	Once the red line of anchor bolt apears,the bolt is properly installed. (Once the bolt is installed completely,the hammering sound is changed.)	
iuge	<ul> <li>Setting tool</li> <li>Anchor bolt</li> </ul>	・Nuts ・Washer ・Torque wrench
<b>t gauge</b> pe visually n using gauge.	Setting tool The undercut anchor bolt is installed with using our original setting tool.	<ul> <li>Anchor bolt</li> <li>Interlocked mechanically by applying proper torque.</li> <li>Few stress to concrete.</li> </ul>

# **Specification of ANZEX anchor bolts**



				AZ	46			AZ	88		AZA4				
Tread (pitch)			<b>M12</b> (1.75)	<b>M16</b> (2.0)	<b>M20</b> (2.5)	<b>M24</b> (3.0)	<b>M12</b> (1.75)	<b>M16</b> (2.0)	<b>M20</b> (2.5)	<b>M24</b> (3.0)	<b>M12</b> (1.75)	<b>M16</b> (2.0)	<b>M20</b> (2.5)	<b>M24</b> (3.0)	
Coating			Zinc c	oating(hot	t dip garva	anized)	Zinc coating(electroplated)				No coating				
Part No.		AZM12P 46H225	AZM16P 46H305	AZM20P 46H360	AZM24P 46H440	AZM12P 88E225	AZM16P 88E305	AZM20P 88E360	AZM24P 88E440	AZM12P A4N225	AZM16P A4N305	AZM20P A4N360	AZM24P A4N440		
Effective anchorage depth	hef	mm	90	123	153	184	135	190	240	285	103	140	176	210	
Maximum thickness of fixture	tfix,max	mm	25	30	40	50	30	40	50	60	30	40	50	60	
Diameter of clearance hole in the fixture	df	mm	14	18	22	26	14	18	22	26	14	18	22	26	
Drill hole diameter	d₀	mm	22.5	30.5	36.0	44.0	22.5	30.5	36.0	44.0	22.5	30.5	36.0	44.0	
Drilled hole depth	h₀	mm	96	131	162	195	141	198	249	296	109	148	185	221	
Deepest drilled hole depth	h1	mm	100.8	137.5	170.1	204.5	145.8	204.5	257.1	305.5	113.8	154.5	193.1	230.5	
Expanded diameter	Def	mm	31.5	42.3	49.3	59.2	31.5	42.3	49.3	59.2	31.5	42.3	49.3	59.2	
Minimum thickness of concrete member	hmin	mm	150	200	250	300	210	290	360	430	170	230	290	350	
Effective sectional area of thread	As	mm <sup>2</sup>	84.3	157	245	353	84.3	157	245	353	84.3	157	245	353	
Characteristic steel uitimate tensile strength	<b>f</b> uk	N/mm <sup>2</sup>	400	400	400	400	800	800	830	830	500	500	500	500	
Characteristic steel yield strength	<b>f</b> <sub>yk</sub>	N/mm <sup>2</sup>	240	240	240	240	640	640	660	660	210	210	210	210	
Minimum tensile load		kN	33.7	62.8	98.0	141.2	67.4	125.6	203.4	293.0	42.2	78.5	122.5	176.5	

#### **Tool list**

	AZ46					AZ	88		AZA4				
	M12	M16	M20	M24	M12	M16	M20	M24	M12	M16	M20	M24	
Primary hole hit with perpendicular quide	PHG225 101MAX	PHG305 138MAX	PHG360 171MAX	PHG440 205MAX	PHG225 146MAX	PHG305 205MAX	PHG360 258MAX	PHG440 306MAX	PHG225 114MAX	PHG305 155MAX	PHG360 194MAX	PHG440 231MAX	
	PHG225 101HEX	PHG305 138HEX			PHG225 146HEX	PHG305 205HEX			PHG225 114HEX	PHG305 155HEX			
Primary hole hit	PH225 101MAX	PH305 138MAX	PH360 171MAX	PH440 205MAX	PH225 146MAX	PH305 205MAX	PH360 258MAX	PH440 306MAX	PH225 114MAX	PH305 155MAX	PH360 194MAX	PH440 231MAX	
	PH225 101HEX	PH305 138HEX			PH225 146HEX	PH305 205HEX			PH225 114HEX	PH305 155HEX			
Undergutter	UC225SDS	UC305MAX	UC360MA	X UC440MAX		UC305MAX	110260MAX	0MAX UC440MAX	UC225SDS	UC305MAX		UC440MAX	
ondercatter		UC305HEX			00225505	UC305HEX				UC305HEX	UCSOUNIAN		
Machanical actions to al	STMAXM12	STMAXM16	STMAXM20	STMAXM24	STMAXM12	STMAXM16	STMAXM20	STMAXM24	STMAXM12	STMAXM16	STMAXM20	STMAXM24	
Mechanical setting tool	STHEXM12	STHEXM16	STHEXM20	STHEXM24	STHEXM12	STHEXM16	STHEXM20	STHEXM24	STHEXM12	STHEXM16	STHEXM20	STHEXM24	
Setting tool ( hand-operated )	STM12	STM16	STM20	STM24	STM12	STM16	STM20	STM24	STM12	STM16	STM20	STM24	
Perpendicular guide	PG225	PG305V	PG360V	PG440V	PG225	PG305V	PG360V	PG440V	PG225	PG305V	PG360V	PG440V	
Perpendicular gauge	VG46225	VG46305	VG46360	VG46440	VG88225	VG88305	VG88360	VG88440	VGA4225	VGA4305	VGA4360	VGA4440	
Undercut gauge	GE225	GE305	GE360	GE440	GE225	GE305	GE360	GE440	GE225	GE305	GE360	GE440	
Cutter blade	BL225	BL305	BL360	BL440	BL225	BL305	BL360	BL440	BL225	BL305	BL360	BL440	



## **Anchor for civil construction**

#### Features

Diamond tipped undercutter produces smooth drilling.
Installation to buildings is easy because reinforcing bar is used as anchor bar.

# Anchor system developed for anchors with large diameter







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