

Types of anchors

▣ Torque controlled expansion anchor - type A

The expansion is achieved by a torque acting on the screw or bolt, the intensity of the anchorage is controlled by this torque.

▣ Hammer set expansion anchor - type B

The expansion is achieved by impacts acting on a sleeve or cone. In the case of the SPIT GRIP anchor, the sleeve is expanded by driving in the cone, the anchorage being controlled by the length of travel of the cone.

▣ Undercut anchors - type C

Undercut anchors are anchored by mechanical interlock provided by an undercut in the concrete. The undercutting can be achieved by hammering or rotating the anchor sleeve into a drilled undercut hole, or by driving the anchor sleeve onto the tapered bolt in a cylindrical hole.

▣ Bonded anchors - type D

Bonded anchors are anchored in drilled holes by bonding the metal parts to the sides of the drilled hole with a resin mortar. Tensile loads are transmitted to the concrete via bond stresses between the metal parts and the resin, and the resin and the concrete face of the drilled hole.

▣ Light weight plastic anchors

Plastic sleeves are expanded by hammering or screwing in the expansion element which presses the sleeve against the wall of the drilled hole. The expansion element could be a nail or a screw.

ETAG part and application range for each anchor type

Suitable anchors type	ETA Guideline number	Application range
TORQUE CONTROLLED EXPANSION ANCHORS	ETAG n° 001 Part 2	Applications for concrete with high risk level <ul style="list-style-type: none"> • "actual" risk of loss of human life • serious economic consequences • affect fitness of the structure to fulfil its functions
UNDERCUT ANCHORS	ETAG n° 001 Part 3	
HAMMER SET EXPANSION ANCHORS	ETAG n° 001 Part 4	
BONDED ANCHORS: embedded parts may be threaded rod, internal threaded socket	ETAG n° 001 Part 5	Applications for concrete with limited risk level <ul style="list-style-type: none"> • "negligible" risk of human life • low economic consequences • localized damages
BONDED ANCHORS : Post-installed rebar connections	ETAG n° 001 Part 5 - Technical Report for post installed Rebar Connections	Application for rebar connections designed in accordance with Eurocode 2
TORQUE CONTROLLED EXPANSION ANCHORS UNDERCUT ANCHORS HAMMER SET EXPANSION ANCHORS BONDED ANCHORS	ETAG n° 001 Part 6	Anchors for multiple use in non-structural applications (typical example include pipework, ductwork and cable tray)
LIGHT WEIGHT PLASTIC ANCHORS	ETAG n° 014	Anchors for fixing external thermal insulation composite systems with rendering

ETAG options

Option n°	Cracked and non cracked	Non cracked only	C20/25 only	C20/25 to C50/60	One value of F_{Rk}	F_{Rk} according to direction	C_{cr}	S_{cr}	C_{min}	S_{min}	Design method
1	•			•		•	•	•	•	•	A
2	•		•			•	•	•	•	•	
3	•			•	•		•	•	•	•	B
4	•		•		•		•	•	•	•	
5	•			•	•		•	•			C
6	•		•		•		•	•			
7		•		•		•	•	•	•	•	A
8		•	•			•	•	•	•	•	
9		•		•	•		•	•	•	•	B
10		•	•		•		•	•	•	•	
11		•		•	•		•	•			C
12		•	•		•		•	•			