

HILTI



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HVU M20x170
(7/8" x 6 5/8")

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Hilti Anchoring Solutions + NZS Compliance

**ADVANCED
ANCHOR SOLUTIONS
BUILT TO CODE.**

Hilti. Outperform. Outlast.

HILTI HILTI

HIT-HY 200-R Hilti HIT-HY 200-R Hilti HIT-HY

HILTI HILTI

Hilti HIT-RE 500 V3 Hilti HIT-RE 500 V3



**ANCHOR PORTFOLIO
UPDATE INSIDE**


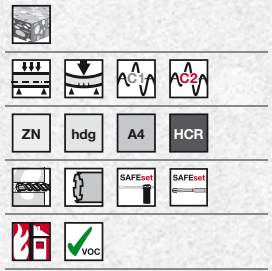

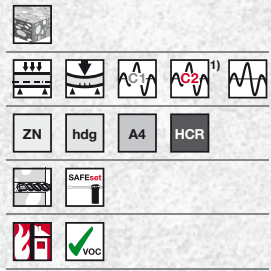
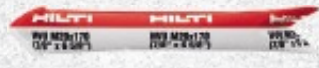
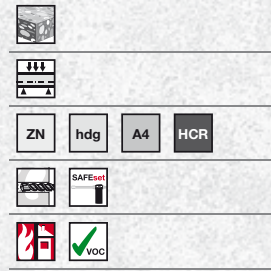

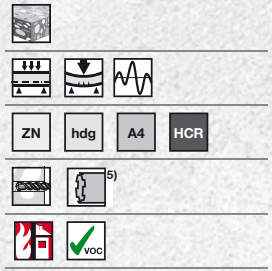
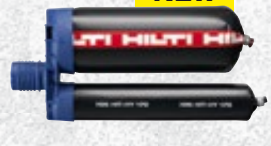
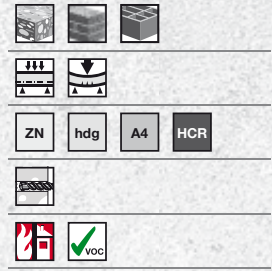

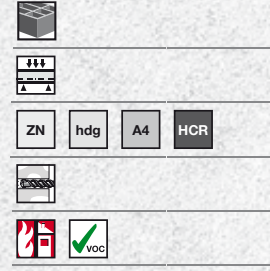


WE'VE GOT YOU COVERED BY THE CODE.

A compliant Hilti anchoring solution for every application.

CHEMICAL ANCHORS

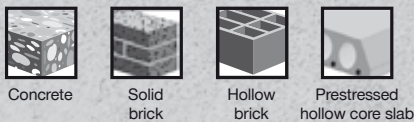
The most versatile chemical anchor range available, from slow cure to super fast cure, covering all applications, base materials and setting requirements.

HILTI INJECTABLE SYSTEM		CAPSULE
Slow cure	Fast cure	Super fast cure
<p>strongest anchors NEW</p>  <p>RE 500 V3</p>  <p>ZN hdg A4 HCR</p> <p>SAFEset</p> <p>VOC</p>	<p>strongest anchors</p>  <p>HY 200</p>  <p>ZN hdg A4 HCR</p> <p>SAFEset</p> <p>VOC</p>	<p>strongest anchors</p>  <p>HVU</p>  <p>ZN hdg A4 HCR</p> <p>SAFEset</p> <p>VOC</p>
<p>NEW</p>  <p>RE 100</p>  <p>ZN hdg A4 HCR</p> <p>SAFEset</p> <p>VOC</p>	<p>NEW</p>  <p>HY 170</p>  <p>ZN hdg A4 HCR</p> <p>SAFEset</p> <p>VOC</p>	<p>NEW</p>  <p>HY MM Plus</p>  <p>ZN hdg A4 HCR</p> <p>SAFEset</p> <p>VOC</p>



Hilti anchors features explained

ETA approval for base materials:



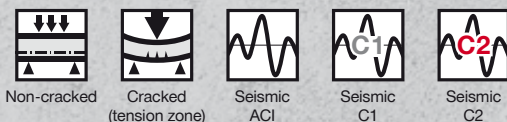
ETA approval for corrosion requirements:



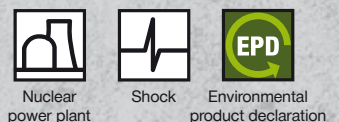
Further approvals provided by Hilti:



ETA approval for design requirements:



ETA approval for setting requirements:





MECHANICAL ANCHORS

The widest NZS compliant mechanical anchor portfolio covering all application needs with ETA assessment from light duty to heavy duty.

UNDERCUT

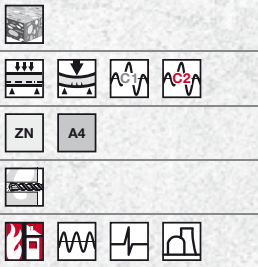
EXPANSION

SCREW

strongest anchors



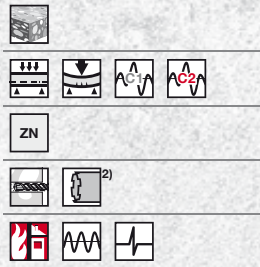
HDA



strongest anchors



HSL



strongest anchors



HST3



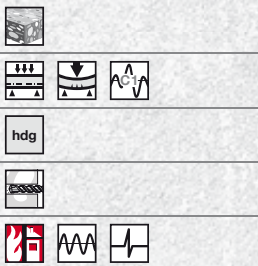
strongest anchors



HUS3



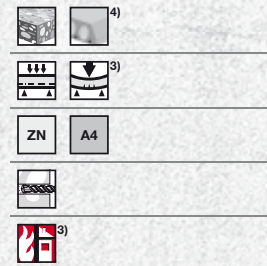
HMU



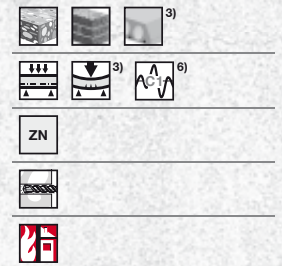
HSA



HKD



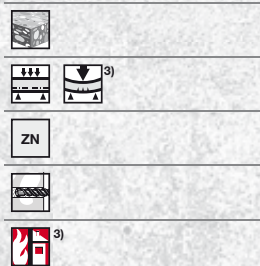
HUS3-I



HSC



DBZ



HRD



1) Only with HIT-Z rod 2) Cored with Hilti DD EC-1 tool 3) As redundant fastening 4) HKD short only 5) REBAR only 6) ETAG C1-UOA



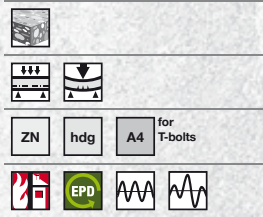
CAST-IN CHANNEL

The only NZS compliant cast-in portfolio with V-shape and green building report.

strongest anchors



HAC



ETA HIGHLIGHTS



SAFE set

Fast, reliable and safe

- Auto-cleaning with Hilti hollow drill bit
- Dustless
- NZS compliant and ETA approvals for the following products:



Hollow drill bit



RE 500 V3



HY 200



HVU



HST3

- Roughen diamond cored holes for better bonding
- Allows higher loads
- NZS compliant and ETA approved for RE 500 V3



Roughening tool



RE 500 V3



Hot dipped galvanised

Hilti provides NZS compliant mechanical anchor portfolio in hot dipped galvanised.

Hilti HDG anchors with ETA approval:



HMU



HUS3

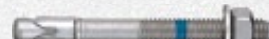


HSA

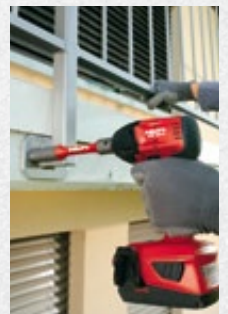


Torque bar

This unique setting tool is fast, safe and **ETA approved**.



HSA



Screw anchors HUS3

Reliable and ETA approved for numerous permanent applications.

- Fast
- No torque wrench
- High loads like stud anchors
- Adjustable
- Cuts through rebar



ETA approved for diamond cored holes



RE 500 V3



HSL²⁾



HST3²⁾



HSA



NZS COMPLIANCE.

To ensure you comply with the New Zealand Standard (NZS), ask for the ETA documentation for the selected anchor.



Our anchors are proven to provide the strongest solution for safety critical applications in concrete, fully backed by technical documentation, software and engineering services.



We offer a full suite of ETA and ICC assessed anchoring solutions, to suit every application from basic through to the most complex and challenging.

ACI 355.2 and New European seismic regulations provide guidance for the qualification and design of post-installed anchoring

Under seismic loading, the performance of a connection in a structure is crucial either to its stability or in order to avoid casualties and major economic impacts, due to the collapse of non-structural elements.

In the United States the anchor seismic resistance shall be evaluated in accordance with ACI 318 Appendix D. Created in accordance with the ACI 355.2 regulated testing procedures and acceptance criteria

ICC-ES AC193 and AC308, pre-qualification reports provide sound data in a proper design format.

With the release of the ETAG 001 Annex E in the first half of 2013, the seismic pre-qualification of anchors became regulated in Europe. Anchors submitted to these new test

procedures will now also incorporate in the ETA (European Technical Approval) all the required technical data for seismic design.

Until the release of the EN 1992-4, planned for 2015, EOTA TR045 (Technical Report) will set the standard for the seismic design of steel to concrete connections. Therefore, the design framework for the seismic design of anchors is already available through both the U.S. and European regulations. The National Standard NZS 3101 and 4219 are currently related to ACI 318 Appendix D and they stipulate only anchors that have passed ACI 355.2 can be used for seismic applications.

ETA NZS compliant anchors



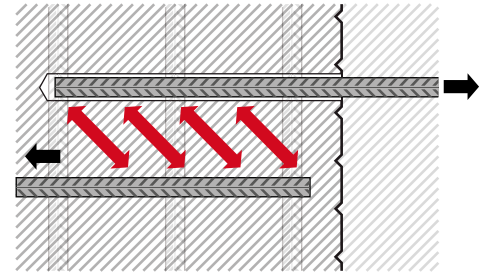
Structural rebar applications.

Approved per CSTB or ICC-ES seismic pre-qualifications.

Post-installed structural rebar

Reinforced concrete design assumes that concrete has negligible tensile strength while allowing for the design of rebar development length and avoiding brittle concrete failure, in the following two situations:

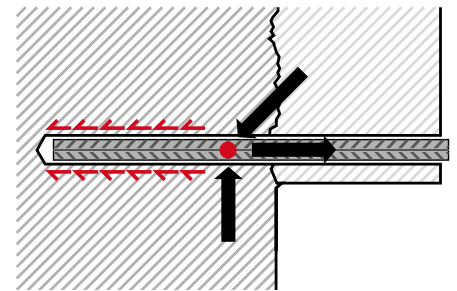
- Transferring tensile loads from one bar to another (overlap splice)
- Development length of the tensile force in a bar beyond a node in equilibrium



Seismic structural rebar approvals

In the absence of an European assessment criteria, the two following approvals can be used to ensure seismic safety:

- DTA approvals issued by CSTB, a member of EOTA.
- Evaluation Service Reports issued by ICC-ES, the present state-of-the-art qualifications for post-installed rebar applications



Design of post-installed rebar connections

Post-installed reinforcement bars are calculated exactly with the same formulation as cast-in bars, however some variables (concrete strength, drilling method, temperature...) can impact the final embedment required or be a clear scope limitation. By using PROFIS Rebar all these extra concerns will be taken into account and a safe and swift specification can be issued.



Hilti Cast in Anchor Channel-HAC



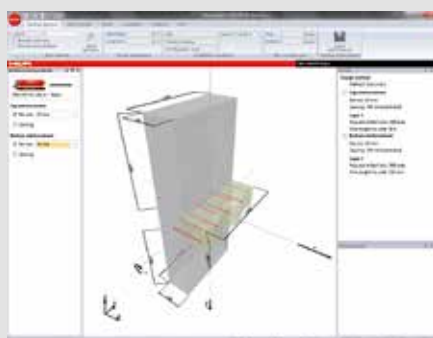
Hilti HIT-HY 200-R



Hilti HIT-RE 500-V3



RE 100



PROFIS Rebar



FTM



Hilti Online



Anchors seismic qualification: ETA C1 and ETA C2. Because seismic is much more than concrete cracks.



ACI 355.2/355.4 and New European seismic regulations provide guidance for the qualification and design of post-installed anchoring. Under seismic loading, the performance of a connection in a structure is crucial either to its stability or in order to avoid casualties and major economic impacts, due to the collapse of non-structural elements.

In the United States the anchor seismic resistance shall be evaluated in accordance with ACI 318 Appendix D. Created in accordance with the ACI 355.2/355.4 regulated testing procedures and acceptance criteria ICC-ES AC193 and AC308, pre-qualification reports provide sound data in a proper design format.

With the release of the ETAG 001 Annex E in the first half of 2013, the seismic pre-qualification of anchors became regulated in Europe. Anchors submitted to these new test procedures will now also incorporate in the ETA (European Technical Approval) all the required technical data for seismic design.

Until the release of the EN 1992-4, planned for 2015, EOTA TR045 (Technical Report) will set the standard for the seismic design of steel to concrete connections. Therefore, the design framework for the seismic design of anchors is already available through both the U.S. and European regulations. The National Standard NZS 3101 and 4219 are currently related to ACI 318 Appendix D and they stipulate only anchors that have passed ACI 355.2/355.4 can be used for seismic applications.

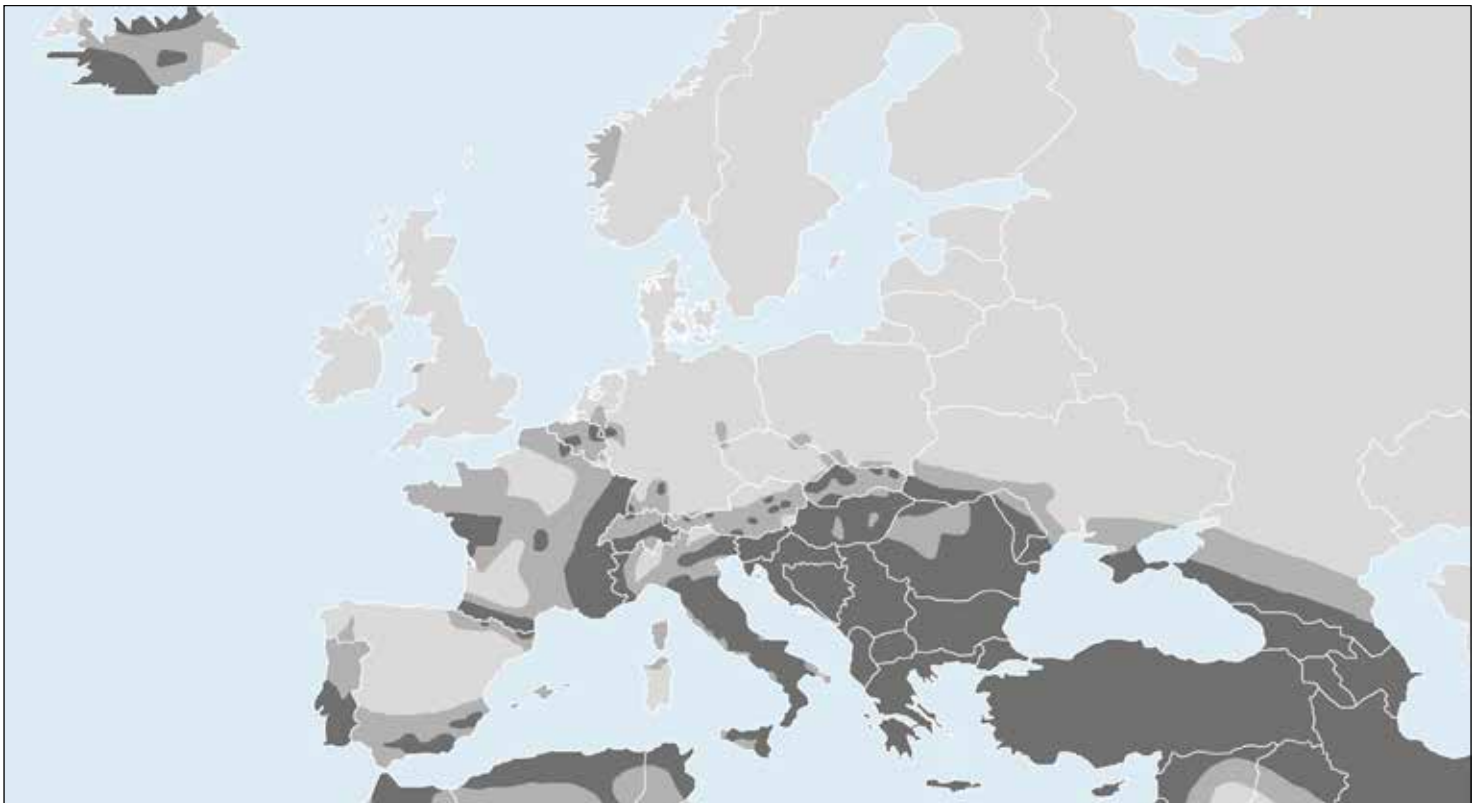
- ETA seismic category C1** – similar to U.S. pre-qualification procedure; only suitable for non-structural applications according to the EOTA TR045 recommendations
- ETA seismic category C2** – arduous seismic crack movement tests qualify an anchor as suitable for more demanding structural and non-structural applications

Structural applications

Acceleration ($a_g \cdot S$)	Building importance II, III, IV
< 0.05g	non-seismic
0.05g to 0.1g	ETA C2
> 0.1g	

Non-structural applications

Acceleration ($a_g \cdot S$)	Building importance II, III	Building importance IV
< 0.05g	non-seismic	
0.05g to 0.1g	ETA C1	ETA C2
> 0.1g	ETA C2	



The map above is based on national earthquake data (for ordinary buildings and ground type A) and provides perspective on the relevance of the new ETA guidelines in various countries. For more precise information see national regulations.

Our state of the art software, PROFIS Anchor and PROFIS Anchor Channel, assist planners and specifiers make the complex calculations required in anchor designs with simplicity and certainty.

Simplicity

- Easy to use visual software makes it easy to model your exact application
- Full access to Hilti's BIM/CAD objects integrated within the software
- Detailed design reports created automatically to provide your project documentation
- Automatic software updates ensure that you are always working with the most current product approvals and latest design methods

Certainty

- Make anchor designs compliant with the National Construction Code referenced NZS 1170.5 Design of post-installed and cast-in fastenings for use in concrete
- ETA prequalified products are filtered by the intended use, also in accordance with NZS 1170.5, making it easy to select the right anchor product with the right ETA and ICC approval
- Meet design challenges which fall outside the scope of NZS 1170.5 such as seismic design with seismically approved anchors
- Access to SOFA and FIB allows a wider range of standard anchor layouts as well as the ability to design fully customised layouts
- Other design methodologies such as ETAG and ACI can also be used
- Backed up by support from Hilti Field Engineers nationwide



Fully compliant with NZS 1170.5
and the New Zealand standard

Hilti. Outperform. Outlast.

