

HILTI HAC ANCHOR CHANNELS

Innovation in V-form

DESIGN METHOD

For anchor channels, based on SA TS 101:2015

For several years now, the design of post-installed anchor fastenings in concrete and the design of cast-in channels with partial safety factors in accordance with European guidelines, has led to better utilisation of each fastening point. Both of these fastening methods have recently been adapted to the Australian standard applicable in the field of construction.

- Design of fastening points for static and dynamic loads as well as loads occurring in the event of fire is according to the state of the art.

DESIGN SOFTWARE

Hilti PROFIS Anchor Channel for cast-in anchor channels

The specification of anchor channels in accordance with SA TS 101 demands use of flexible, up-to-date software that lets engineers work efficiently. PROFIS Anchor Channel, the new PC application from Hilti, meets these requirements admirably.

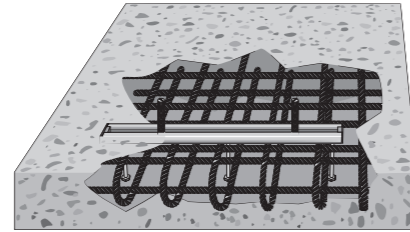
- Fast, flexible and user-friendly – based on the proven PROFIS application platform.
- Detailed, easy-to-follow calculation approach shown on the screen and on printed copies.
- Database link to DWX/DWG files in 2D and 3D for integration in CAD drawings.

TECHNICAL ADVICE

Hilti supports and advises you in all technical matters

We provide a comprehensive package of services for engineers. Our own engineers are pleased to offer their advice – in your office or on your jobsite. In particularly complex situations, Hilti's central team of experts and a global network of highly competent technical staff are at your service.

- Support with planning and design
- Support with tenders and quotes
- On-site tests and assessments
- Seminars and training



Takes specific conditions into account, such as

- Concrete member thickness
- Concrete compressive strength
- Edge distances
- Type of load / direction of application
- Supplementary reinforcement



- Individual design of anchor channels and T-head bolts
- Loads can be entered directly on the baseplate
- Instant display of calculation results upon changing parameters
- Optimisation options



MATCHED SYSTEM FOR CAST-IN FASTENINGS

HAC cast-in anchor channels, HBC T-head bolts and connecting parts from the MQ installation channel system.

Overview of anchor channels, T-head bolts and connecting parts

Fastening system	HBC-B T-head bolt Versions available: Thread sizes M8-M12 Electrogalvanised 4.6 (8 µm) Hot-dip galvanised 4.6 (45 µm)	MQ system connecting parts (Not part of approval) Versions available: Electrogalvanised 4.6 (8 µm) Hot-dip galvanised 4.6 (45 µm)	HBC-C T-head bolt Versions available: Thread sizes M10-M20 Electrogalvanised 8.8 (8 µm) Hot-dip galvanised 8.8 (45 µm) Stainless steel A4-50	HBC-C-N T-head bolt Serrated-head bolt for loads acting longitudinally Versions available: Thread sizes M16-M20 Hot-dip galvanised 8.8 (45 µm)	HBC-C-E T-head bolt Bolt for elevator installation Versions available: Thread sizes M12-M16 Electrogalvanised 8.8 (8 µm)
HAC-30 anchor channel Channel lengths from 200 to 5800 mm Hot-dip galvanised (55 µm)*	■	■			
HAC-40 anchor channel Channel lengths from 150 to 5800 mm Hot-dip galvanised (55 µm)*			■	■	■
HAC-50 anchor channel Channel lengths from 150 to 5800 mm Hot-dip galvanised (55 µm)*			■	■	■
HAC-60 anchor channel Channel lengths from 300 to 5800 mm Hot-dip galvanised (70 µm)*			■	■	■
HAC-70 anchor channel Channel lengths from 300 to 5800 mm Hot-dip galvanised (70 µm)*			■	■	■

* Min. mean average coating thickness of channel

Learn more about our anchors and NCC compliance



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Hilti HAC anchor channels



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THE NEW CAST-IN ANCHOR CHANNEL GENERATION

With V-form for outstanding performance, versatility and savings

With over 60 years of experience in fastening systems, Hilti is your reliable partner for secure anchor solutions. We have now further extended our range of products to

include a new generation of cast-in anchor channels for reliable load transfer to concrete structures – the Hilti HAC anchor channel.

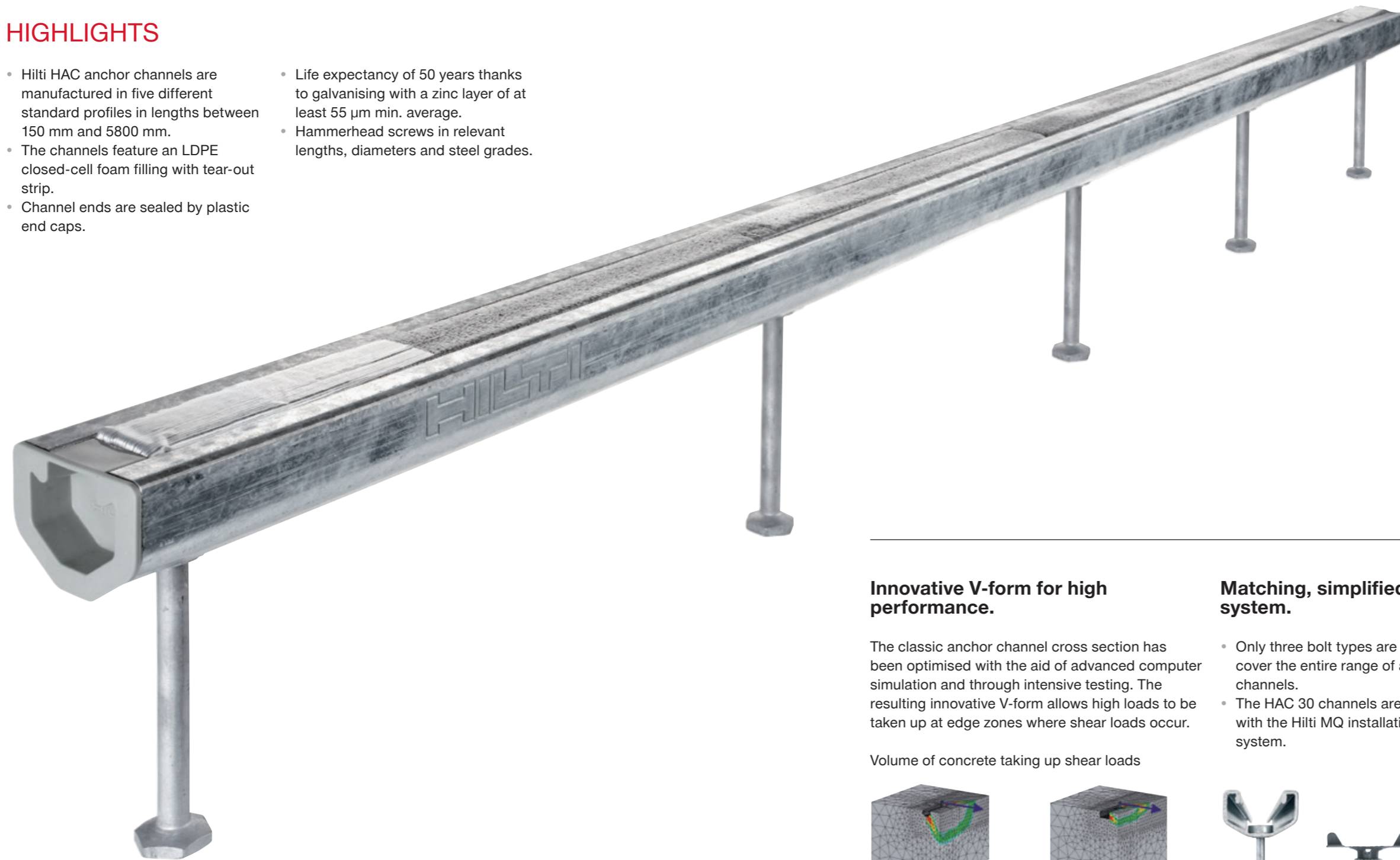


ADVANTAGES

- Innovative system**
 New V-form that allows high loads to be taken up close to slab edges where shear loads occur.
- Well-sealed system**
 The foam filling strip and end caps ensure that no concrete slurry finds its way into the channel.
- Time-saving system**
 Thanks to the new time-saving tear-out strip, the foam filling can be removed quickly and easily without leaving any remains.
- Simple, matched system**
 Use of a single hammerhead screw type for several channel sizes greatly simplifies the range of bolts required. The serrated anchor channels are compatible with the familiar Hilti MQ channel system for general installation work.
- Issued with an EPD**
 Independent Environmental Product Declaration, basis for sustainability-oriented building certification systems such as BREEAM or LEED.

HIGHLIGHTS

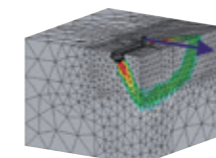
- Hilti HAC anchor channels are manufactured in five different standard profiles in lengths between 150 mm and 5800 mm.
- The channels feature an LDPE closed-cell foam filling with tear-out strip.
- Channel ends are sealed by plastic end caps.
- Life expectancy of 50 years thanks to galvanising with a zinc layer of at least 55 µm min. average.
- Hammerhead screws in relevant lengths, diameters and steel grades.



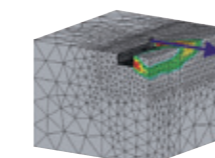
Innovative V-form for high performance.

The classic anchor channel cross section has been optimised with the aid of advanced computer simulation and through intensive testing. The resulting innovative V-form allows high loads to be taken up at edge zones where shear loads occur.

Volume of concrete taking up shear loads



V-form



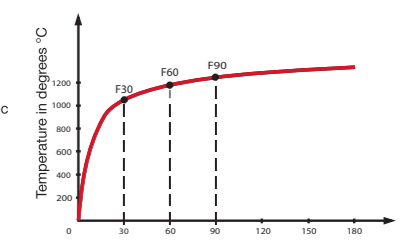
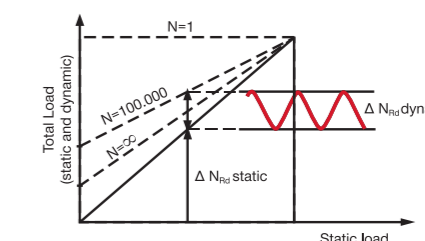
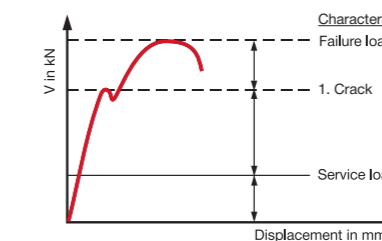
Classic cross section

Matching, simplified system.

- Only three bolt types are needed to cover the entire range of anchor channels.
- The HAC 30 channels are compatible with the Hilti MQ installation channel system.



Designed for static and dynamic loads as well as loads occurring in the event of fire.



Designed for static loads

Only very low displacement occurs under service loads with Hilti anchor channels in cracked concrete. The anchor channels exhibit ductile behavior when the ultimate limit state is exceeded and provide clear advance warning before failure occurs

Designed for dynamic loads

The new design method employed allows dynamic loads to be taken into account in terms of short-term as well as long-term fatigue strength for tensile loads acting in conjunction with static loads. The basis for this is formed by the Wöhler fatigue strength curves determined experimentally for the entire oscillation spectrum.

Designed for loads occurring on exposure to fire

An all-encompassing design concept for anchor channels was developed for the first time. This concept takes the loads that occur during exposure to fire into account in accordance with the standard temperature curve (ETK and ISO 834, DIN 4102 T.2) for pure tensile as well as shear loading. Design calculations are made according to EOTA TR020 or, respectively, CEN/TS 1992-4.

Time-saving, well-sealed system.

The new environmentally friendly LDPE closed-cell foam filling equipped with a tear-out strip can be removed quickly, thus saving labor costs. Plastic end caps also help keep concrete slurry out of the channels.



Tests and approvals.

Under the number ETA-11/0006 issued 1/2/2016, the Hilti HAC cast-in channel system has been approved for use under static as well as dynamic loads and loads occurring in the event of fire. Approved for use under seismic loads as per ICC-ES AC 232, ACI 318-11.

