

VDP- Quartz Glass Capsules



VDP-Q Capsule Range: M8 - M24



Introduction

VDP Quartz capsules are suitable for use in both hammer drilled and core drilled holes and available for anchor rod M8 - M24 installations.

Suitable for dry and damp holes, horizontal, vertical or overhead applications **VDP Quartz** capsules provide a high performance adhesive anchoring system with zero wastage when compared to injection systems as each capsule is the correct dosage for one stud anchor.

Installation instructions need to be followed as detailed in this data sheet to ensure correct anchoring is achieved and only **ICCONS™** chisel point threaded studs are recommended.

ICCONS™ chemical anchoring studs are available in class 5.8 zinc plated or mechanically galvanised finish and 316 grade A4/70 grade stainless. It is important that **ICCONS™** chisel point anchoring studs are used with the **VDP Quartz** capsules to ensure correct mixing of the capsule is achieved and the correct grades of steel are used in the installation. Each Box of **ICCONS™** chisel point studs come with the correct size socket driver included.

Benefits

- Diamond core drilled holes
- Fast Curing
- Damp holes
- Overhead Installation
- Suitable for cold conditions (-5°C) such as cool rooms

Typical Applications

- Infrastructure Construction : (Roads, Viaducts, Sound Barriers, Crash Barriers, Harbours, High Rise Construction, Steel Construction) Studs and rebar
- Production Facilities (Crane Installation, Robot Installation etc.)

Approvals

- ETA Option 7 ETAG 001-005 for uncracked concrete M8 - M30



Date:

29th Aug. 2013

Revision: 1



Adhesive

DATA SHEET

Glass Capsule Anchors offer the Highest Level of "built-in" Safety:



1. **VolumeControl** Factory Premeasured Components guarantee the correct composition and volume of capsule components. After installation of the rod, the overflow of anchor components provides visual confirmation of a 100% filled hole
2. **ResinCheck** The transparent glass capsule allows the installer to check the quality of the resin. Usability is given when the resin runs easily inside the capsule at lukewarm temperature.
3. **AutoClean** During the installation of the anchor rod the quartz and glass components of the capsule scrape the wall of the pre-drilled hole, removing any drill dust. This Auto-Cleaning function results in an excellent adhesion between the Anchor Rod and surrounding Concrete.

Suggested specification

ICCONS -VDP Quartz Adhesive Capsules.
Part # - VDP-Q (anchor size) to be installed in accordance with ICCONS technical data sheet.

Document #

2001.1



Performance in Concrete

Limit State Design

TENSION							SHEAR			
Threaded Rod Size	Hole Size (mm)	Embed Depth (mm)	Concrete 32MPa	Design Steel Capacity			Concrete 32MPa	Design Steel Capacity		
			Design Capacity ϕN_A (kN)	Class 5.8 ϕN_{ti} (kN)	Class 8.8 ϕN_{ti} (kN)	(A4 -70) 316 SS ϕN_{ti} (kN)	Design Capacity ϕV_A (kN)	Class 5.8 ϕV_i (kN)	Class 8.8 ϕV_i (kN)	(A4 -70) 316 SS ϕV_i (kN)
M8	10	80	14.2	15.2	23.4	17.2	24.1	9.0	13.9	11.3
M10	12	90	20.0	24.1	37.1	27.2	40.0	14.3	22.0	17.9
M12	14	110	29.4	35.1	54.0	39.5	58.7	20.8	32.0	26.0
M16	18	125	44.5	65.3	100.5	73.6	89.0	39.0	60.0	48.4
M20	22	170	71.8	101.9	162.7	114.9	143.7	60.9	97.2	75.5
M24	26	210	106.5	146.8	234.4	165.6	213.0	87.6	139.9	108.7

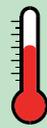
Loads in kN for a single anchor in Non-Cracked Concrete without edge or spacing influences.

Installation Dimensions

Threaded Rod Size	D_a	M8	M10	M12	M16	M20	M24
Hole Diameter (mm)	d_o	10	12	14	18	22	26
Embedment Depth (mm)	$h_o = h_{ef}$	80	90	110	125	170	210
Fixture Hole Diameter (mm)	d_f	9	12	14	18	22	26
Max. Fixture Thickness (mm)	t_{fix}	15	23	30	41	62	56
Recommended Torque (Nm)	t_{inst}	10	20	40	80	120	150
Min. Edge Distance (mm)	C_{min}	40	45	55	65	85	105
Min. Spacing	S_{min}	40	45	55	65	85	105

Curing Times

Observe curing times before loading the anchor. Shown temperatures are concrete temperatures. Depending upon the humidity of the concrete, longer curing times may become necessary. Do not disturb or load anchor rod before the specified curing time has elapsed.



Concrete Temperature

$\geq -5^\circ\text{C}$
 $\geq 5^\circ\text{C}$
 $\geq 20^\circ\text{C}$
 $\geq 30^\circ\text{C}$



Min. Curing Time in Dry holes

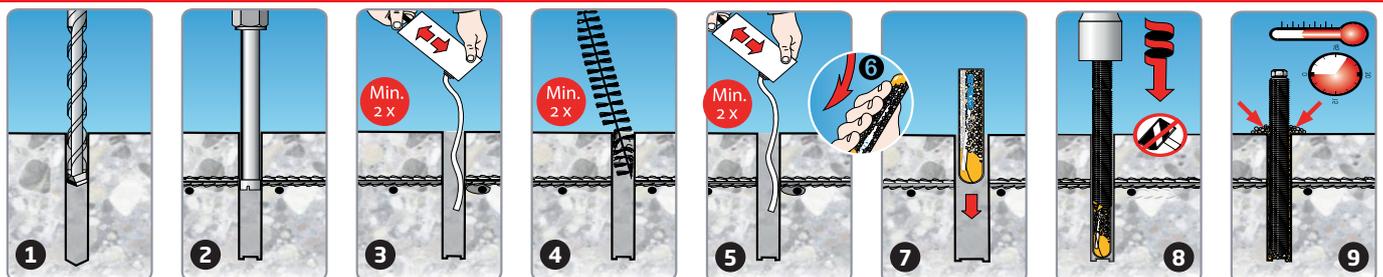
5 hrs.
 1 hr.
 20 min.
 10 min.



Min. Curing Time in damp holes

10 hrs.
 2 hrs.
 40 min.
 20 min.

Installation Instructions



1 Drilling the anchor hole

Drill the anchor hole with a rotary hammer according to the dimensions in the Installation Dimensions Table.

2 In reinforced concrete use a diamond drilling machine. (Not included in ETA)

3 4 & 5 Cleaning the anchor hole

Clean anchor hole thoroughly by min. 2x blowing out, min. 2x brushing and min. 2x blowing out. Remove any remaining water from core drill hole.

6 Usability of the capsule

Usability is given provided the glass capsule is not damaged and the resin, at lukewarm temperature, runs easily inside the capsule.

7 Inserting the Capsule

Insert capsule into the cleaned hole.

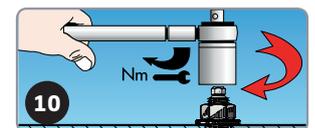
8 Installing the anchor rod

Install a clean anchor rod (free of any oil, grease or oxidation) with a rotary hammer (250-500 rpm). Stop rotating immediately upon reaching the bottom of the anchor hole. Overspinning leads to emptying the anchor hole.

9 The installation is correct when the marking on the anchor rod is level with the concrete surface and the void around the anchor rod is filled completely

10 Recommended torque

Observe recommended torque. See the Installation Dimensions table.



NOTE: Never only hammer in anchor rods. Always wear safety goggles when installing

