ICCONS®
Serious Connections

TDS 2018.1

BIS-HY GEN2

Hybrid GEN 2

NEW! NEXT GENERATION HYBRID ADHESIVES

COMPLIES WITH AS 5216:2018 FOR POST-INSTALLED FASTENINGS

DONE AND DUSTLESS

ETA - 19/0130

ETA - 19/0131

C1 SEISMIC

C2 SEISMIC

F120

ÉMISSIONS DANS L'AIR INTÉRIEUR

A+

A+ A B C

AS/NZS 4020 POTABLE WATER APPROVED

NCC TM NATIONAL CODE COMPLIANT

LEED

TECHNICAL MANUAL

B+BTec

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BIS

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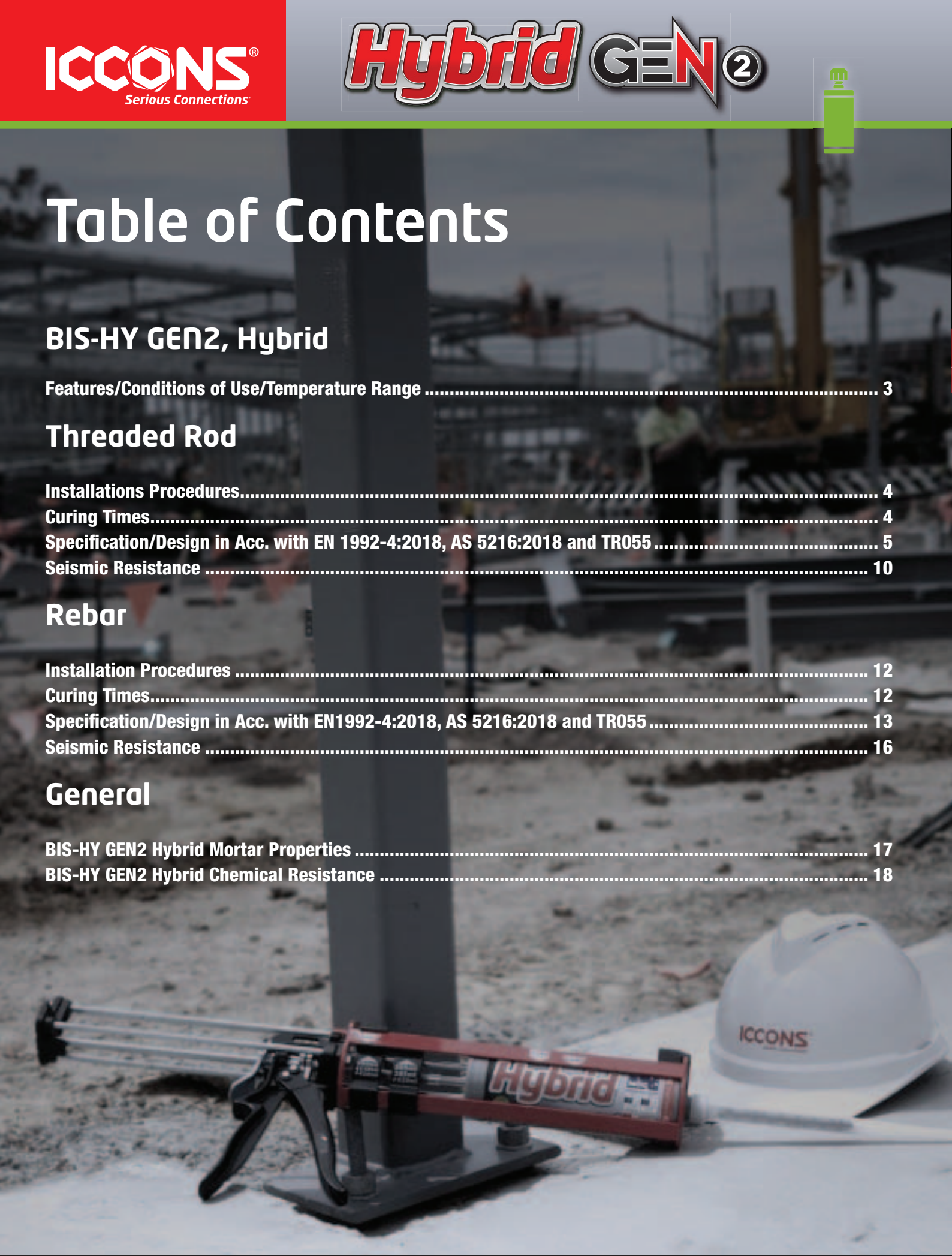
BIS-HY GEN2, Hybrid

Threaded Rod

Rebar

General



Hybrid GEN 2

ICCONS Serious Connections

Hybrid Injection Adhesive ETA Option 1 Assessed for Cracked & Non-Cracked Concrete

ETA - 19/0131

Threaded Rod M8 - M30
Rebar Dowels Ø8 - Ø32 mm

ROD: Steel 5.8 and 8.8 Zinc Plated and Hot Dip Galvanized, Stainless Steel A4-50 and A4-70, High Corrosion Resistant Steel 1.4529
Rebar: EN 1992-1-1:2004 + AC:2010 Annex C

Features

- NEW! ETA Assessed for the Installation in Flooded Holes
- NEW! No Cleaning required for Hollow Drilling
- NEW! Extended Seismic C2 Range: M12 - M24
- For Extreme Loads
- Fast Curing
- Styrene Free
- Low VOC: A+ Rating
- Fire Rated
- Leed Tested
- Potable Water Approved
- DesignFix® support

Conditions of Use

- Installation in Cracked & Non-Cracked Concrete C20/25 to C50/60
- For Anchor Rods M8-M30, Rebar Ø8-32 mm and Threaded Sleeves M6-M20
- Seismic Action C1: M8-M30, Ø8-32 mm
- Seismic Action C2: M12 - M24
- For Hammer/Air drilled Holes
- Installation in Dry and Wet Holes
- Installation in Flooded Holes
- Overhead Installation allowed.

Approvals & Test Reports

ETA - 19/0130
ETA - 19/0131
C1 SEISMIC
C2 SEISMIC
F120
ÉMISSIONS DANS L'AIR INTÉRIEUR A+
AS/NZS 4020 POTABLE WATER APPROVED
NCC NATIONAL CODE COMPLIANT
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Temperature Range

B+BTec BIS-HY GEN2 injection mortar may be applied in the temperature ranges given below. An elevated base material temperature leads to a reduction of the bond resistance.

Max. long term base material temperature: Long term elevated base material temperatures are roughly constant over significant periods of time.

Max. short term base material temperature: Short term elevated base material temperatures are those that occur over brief intervals, e.g. as a result of diurnal cycling.

Temperature Range	Temperature Base Material	Max. Long Term Base Material Temperature	Max. Short Term Base Material Temperature
Temp. Range I	-40°C to +80°C	+ 50°C	+80°C
Temp. Range II	-40°C to +120°C	+72°C	+120°C
Temp. Range III	-40°C to +160°C	+100°C	+160°C

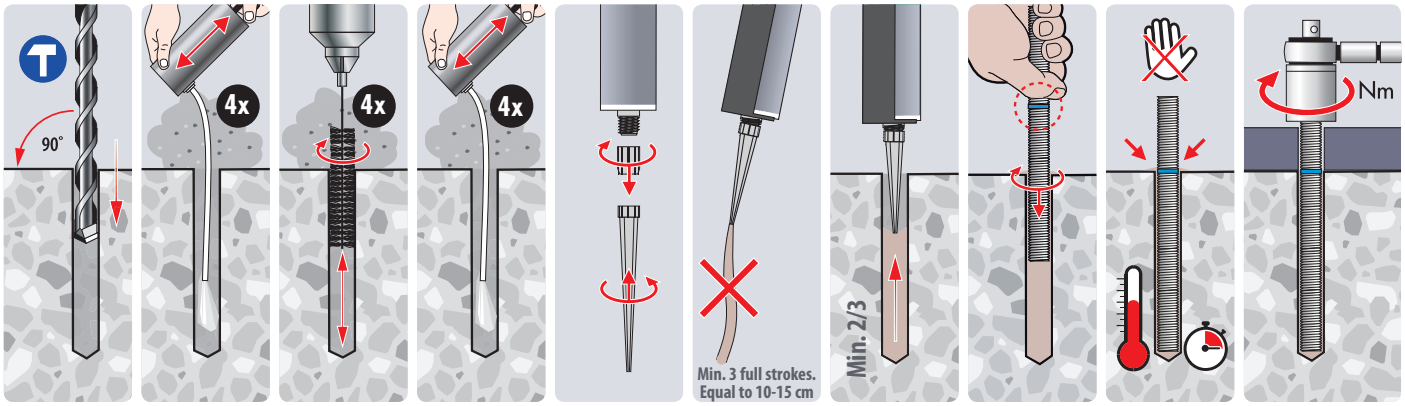
COMPLIES WITH AS 5216:2018 FOR POST-INSTALLED FASTENINGS

DONE AND DUSTLESS

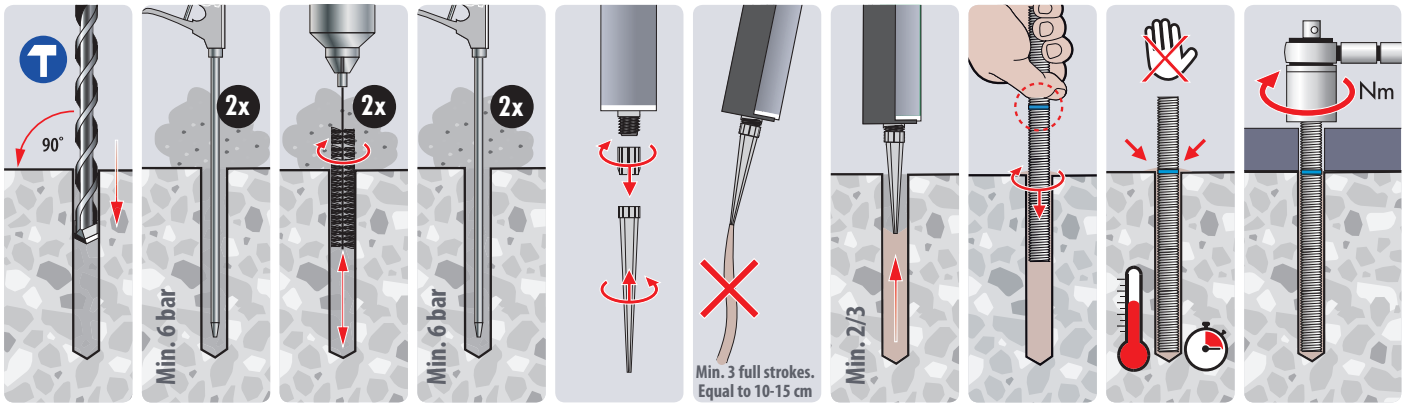
BIS-HY GEN2

Installation Procedures (Hand Pump Cleaning)

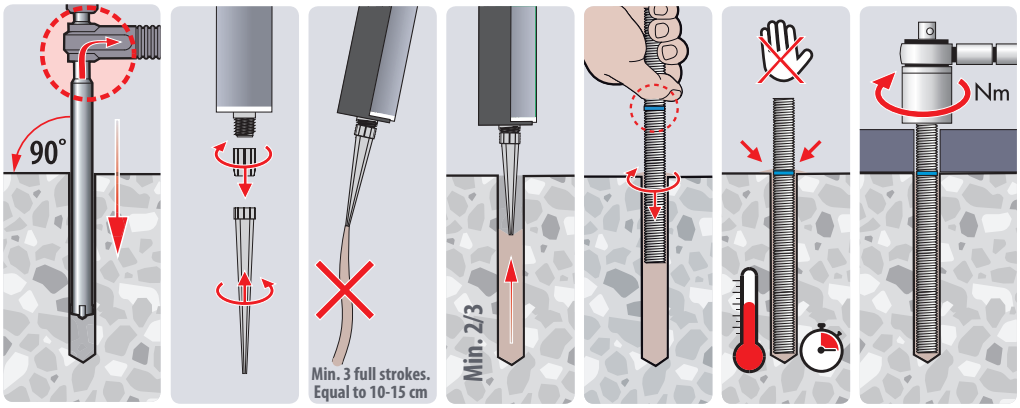
Hand Pump Cleaning for bore hole diameter $d_0 \leq 20$mm, bore hole depth $h_0 \leq 10d_{nom}$ and Non-Cracked Concrete only.



Installation Procedures (Compressed Air Cleaning)



Installation Procedures (Hollow Drilling) - Heller Duster Expert Hollow Drill Bits



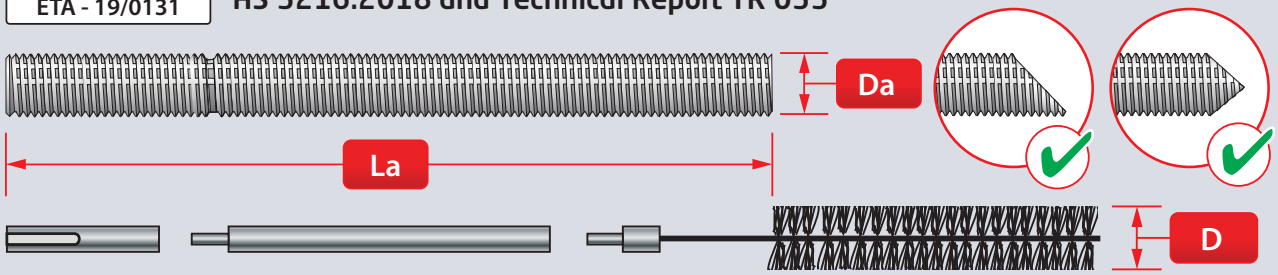
Curing Times[1)]

Temperature[2)] °C	-5 to -1	0 to +4	+5 to +9	+10 to + 14	+15 to +19	+20 to +29	+30 to +40
Processing/Working Time	50 min	25 min	15 min	10 min	6 min	3 min	2 min
Curing Time Dry Holes	5 h	3,5 h	2 h	1h	40 min	30 min	30 min
Curing Time Wet Holes	10 h	7 h	4 h	2h	80 min	60 min	60 min

1) Cartridge Temperature must be between +5°C and +40°C. 2) Concrete Temperature

ETA - 19/0131

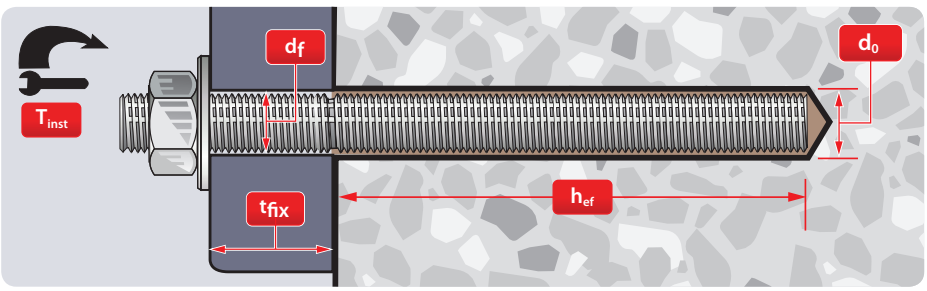
Specification Data for the use in Cracked & Uncracked Concrete and Hammer/Air Drilled Holes according to EN 1992-4:2018, AS 5216:2018 and Technical Report TR 055

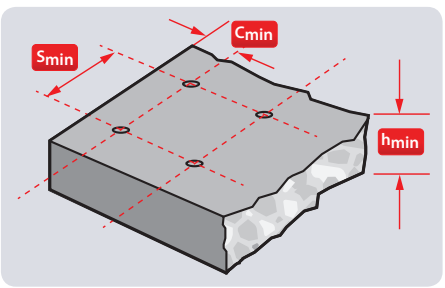


Installation Dimensions

Anchor Size	Da		M8	M10	M12	M16	M20	M24	M27	M30
Anchor Rod Length	L_a	[mm]	110	130	160	190	260	300	340	360
Min. Eff. Anchorage Depth	$h_{ef,min}$	[mm]	60	60	70	80	90	96	108	120
Max. Eff. Anchorage Depth	$h_{ef,max}$	[mm]	160	200	240	320	400	480	540	600
Anch. Depth for Calculation	$h_{ef,calc}$	[mm]	80	90	110	125	170	210	250	280
Hole Diameter	d_0	[mm]	10	12	14	18	22	28	30	35
Diameter Clearance Hole in the Fixture[1)]										
- Prepositioned Installation	d_f	[mm]	9	12	14	18	22	26	30	33
- Push through installation	d_f	[mm]	12	14	16	20	24	30	33	40
Fixture Height	$t_{fix} \leq$	[mm]	20	30	35	45	70	65	70	50
Max. Torque Moment[2)]	$T_{inst} \leq$	[Nm]	10	20	40	60	100	170	250	300
Required Volume per cm Embedment Depth	V_s	[ml/cm]	0,44	0,59	0,75	1,09	2,25	2,87	3,72	4,37

1) For application under seismic loading the diameter of clearance hole in the fixture shall be at maximum d + 1mm or alternatively the annular gap between fixture and anchor rod shall be filled force-fit with mortar. 2) Max. recommended torque moment to avoid splitting failure during installation with minimum spacing and edge distance





Member Thickness, Edge Distance & Spacing

Anchor Size	Da		M8	M10	M12	M16	M20	M24	M27	M30
Min. Member Thickness	h_{min}	[mm]	h_{ef} + 30 mm ≥100 mm			h_{ef} + $2d_0$				
Min. Edge Distance	C_{min}	[mm]	35	40	45	50	60	65	75	80
Min. Spacing	S_{min}	[mm]	40	50	60	75	95	115	125	140

Steel Brush Dimensions

Anchor Size	Da		M8	M10	M12	M16	M20	M24	M27	M30
Brush Diameter	D	[mm]	11,5	13,5	15,5	20	24	30	31,8	37
Min. Brush Diameter	D_{min}	[mm]	10,5	12,5	14,5	18,5	22,5	28,5	30,5	35,5
Piston Plug	#	[-]	No piston plug required			18	22	28	30	35

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Static and quasi-static resistance (for a single anchor)

All data in this section subject to:

- Correct setting (see setting instructions).
- No edge distance and spacing influence.
- Standard embedment depth, as specified in the 'Installation Dimensions' table ($H_{ef,calc}$).
- Concrete C20/25, f_{ck} = 20 N/mm².
- Temperature range I: (max. long/short term temperature +50°C/+80°C).
- Shear loads are calculated without the influence of a lever arm.
- ψ_{sus} = 1,0 according EN 1992-4:2018; eq. 7.14a.
- Recommended loads are with overal partial safety factor for action γ_G = 1,4.
  The partial safety factors for action depend on the type of loading and shall be taken from national regulations.

Design Resistance Dry/Wet Holes (Compressed Air Cleaning)

Steel Decisive

Non-Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	N_{Rd}	[kN]	12,0	19,3	28,0	45,8	72,7	99,8	129,6	153,7
	Shear	V_{Rd}	[kN]	7,2	12,0	16,8	31,2	48,8	70,4	92,0	112,0
Steel 8.8	Tensile	N_{Rd}	[kN]	19,3	28,0	37,8	45,8	72,7	99,8	129,6	153,7
	Shear	V_{Rd}	[kN]	12,0	18,4	27,2	50,4	78,4	112,8	147,2	179,2
A4-50	Tensile	N_{Rd}	[kN]	6,3	10,1	14,7	27,6	43,0	61,9	80,4	98,3
	Shear	V_{Rd}	[kN]	3,8	6,3	8,8	16,4	25,6	37,0	48,3	58,8
A4-70	Tensile	N_{Rd}	[kN]	13,9	21,9	31,6	45,8	72,7	99,8	-	-
	Shear	V_{Rd}	[kN]	8,3	12,8	19,2	35,3	55,1	79,5	-	-

Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	N_{Rd}	[kN]	9,4	14,1	22,1	32,1	50,9	69,9	90,7	107,6
	Shear	V_{Rd}	[kN]	7,2	12,0	16,8	31,2	48,8	70,4	92,0	112,0
Steel 8.8	Tensile	N_{Rd}	[kN]	9,4	14,1	22,1	32,1	50,9	69,9	90,7	107,6
	Shear	V_{Rd}	[kN]	12,0	18,4	27,2	50,4	78,4	112,8	147,2	179,2
A4-50	Tensile	N_{Rd}	[kN]	6,3	10,1	14,7	27,6	43,0	61,9	80,4	98,3
	Shear	V_{Rd}	[kN]	3,8	6,3	8,8	16,4	25,6	37,0	48,3	58,8
A4-70	Tensile	N_{Rd}	[kN]	9,4	14,1	22,1	32,1	50,9	69,9	-	-
	Shear	V_{Rd}	[kN]	8,3	12,8	19,2	35,3	55,1	79,5	-	-

Design Resistance Dry/Wet Holes (Hollow Drilling)

Steel Decisive

Non-Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	N_{Rd}	[kN]	12,0	19,3	28,0	38,2	60,6	83,2	108,0	128,0
	Shear	V_{Rd}	[kN]	7,2	12,0	16,8	31,2	48,8	70,4	92,0	112,0
Steel 8.8	Tensile	N_{Rd}	[kN]	19,0	23,3	31,5	38,2	60,6	83,2	108,0	128,0
	Shear	V_{Rd}	[kN]	12,0	18,4	27,2	50,4	78,4	112,8	147,2	179,2
A4-50	Tensile	N_{Rd}	[kN]	6,3	10,1	14,7	27,6	43,0	61,9	80,4	98,3
	Shear	V_{Rd}	[kN]	3,8	6,3	8,8	16,4	25,6	37,0	48,3	58,8
A4-70	Tensile	N_{Rd}	[kN]	13,9	21,9	31,5	38,2	60,6	83,2	-	-
	Shear	V_{Rd}	[kN]	8,3	12,8	19,2	35,3	55,1	79,5	-	-

Design Resistance Dry/Wet Holes (Hollow Drilling, Cont'd)

Steel Decisive

Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	N_{Rd}	[kN]	7,8	11,8	18,4	26,7	42,4	58,2	75,6	89,6
	Shear	V_{Rd}	[kN]	7,2	12,0	16,8	31,2	48,8	70,4	92,0	112,0
Steel 8.8	Tensile	N_{Rd}	[kN]	7,8	11,8	18,4	26,7	42,4	58,2	75,6	89,6
	Shear	V_{Rd}	[kN]	12,0	18,4	27,2	50,4	78,4	112,8	147,2	179,2
A4-50	Tensile	N_{Rd}	[kN]	6,3	10,1	14,7	26,7	42,4	58,2	75,6	89,6
	Shear	V_{Rd}	[kN]	3,8	6,3	8,8	16,4	25,6	37,0	48,3	58,8
A4-70	Tensile	N_{Rd}	[kN]	7,8	11,8	18,4	26,7	42,4	58,2	-	-
	Shear	V_{Rd}	[kN]	8,3	12,8	19,2	35,3	55,1	79,5	-	-

Design Resistance Flooded Holes

Steel Decisive

Non-Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	N_{Rd}	[kN]	12,0	19,3	27,0	32,7	51,9	71,3	92,6	109,8
	Shear	V_{Rd}	[kN]	7,2	12,0	16,8	31,2	48,8	70,4	92,0	112,0
Steel 8.8	Tensile	N_{Rd}	[kN]	16,3	20,0	27,0	32,7	51,9	71,3	92,6	109,8
	Shear	V_{Rd}	[kN]	12,0	18,4	27,2	50,4	78,4	112,8	147,2	179,2
A4-50	Tensile	N_{Rd}	[kN]	6,3	10,1	14,7	27,6	43,0	61,9	80,4	98,3
	Shear	V_{Rd}	[kN]	3,8	6,3	8,8	16,4	25,6	37,0	48,3	58,8
A4-70	Tensile	N_{Rd}	[kN]	13,9	20,0	27,0	32,7	51,9	71,3	-	-
	Shear	V_{Rd}	[kN]	8,3	12,8	19,2	35,3	55,1	79,5	-	-

Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	N_{Rd}	[kN]	6,7	10,1	15,8	22,9	36,3	49,9	64,8	76,8
	Shear	V_{Rd}	[kN]	7,2	12,0	16,8	31,2	48,8	70,4	92,0	112,0
Steel 8.8	Tensile	N_{Rd}	[kN]	6,7	10,1	15,8	22,9	36,3	49,9	64,8	76,8
	Shear	V_{Rd}	[kN]	12,0	18,4	27,2	50,4	78,4	112,8	147,2	179,2
A4-50	Tensile	N_{Rd}	[kN]	6,3	10,1	14,7	22,9	36,3	49,9	64,8	76,8
	Shear	V_{Rd}	[kN]	3,8	6,3	8,8	16,4	25,6	37,0	48,3	58,8
A4-70	Tensile	N_{Rd}	[kN]	6,7	10,1	15,8	22,9	36,3	49,9	-	-
	Shear	V_{Rd}	[kN]	8,3	12,8	19,2	35,3	55,1	79,5	-	-

Combined tension and shear loading in accordance with EN 1992-4:2018 and AS 5216:2018 please refer to ICCONS Designfix software or contact ICCONS engineering department **engineering@iccons.com.au** for further information.

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Recommended Loads Dry/Wet Holes (Compressed Air Cleaning)

Non-Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	N_{rec}	[kN]	8,6	13,8	20,0	32,7	51,9	71,3	92,6	109,8
	Shear	V_{rec}	[kN]	5,1	8,6	12,0	22,3	34,9	50,3	65,7	80,0
Steel 8.8	Tensile	N_{rec}	[kN]	13,8	20,0	27,0	32,7	51,9	71,3	92,6	109,8
	Shear	V_{rec}	[kN]	8,6	13,1	19,4	36,0	56,0	80,6	105,1	128,0
A4-50	Tensile	N_{rec}	[kN]	4,5	7,2	10,5	19,7	30,7	44,2	57,4	70,2
	Shear	V_{rec}	[kN]	2,7	4,5	6,3	11,7	18,3	26,4	34,5	42,0
A4-70	Tensile	N_{rec}	[kN]	9,9	15,7	22,5	32,7	51,9	71,3	-	-
	Shear	V_{rec}	[kN]	6,0	9,2	13,7	25,2	39,4	56,8	-	-

Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	N_{rec}	[kN]	6,7	10,1	15,8	22,9	36,3	49,9	64,8	76,8
	Shear	V_{rec}	[kN]	5,1	8,6	12,0	22,3	34,9	50,3	65,7	80,0
Steel 8.8	Tensile	N_{rec}	[kN]	6,7	10,1	15,8	22,9	36,3	49,9	64,8	76,8
	Shear	V_{rec}	[kN]	8,6	13,1	19,4	36,0	56,0	80,6	105,1	128,0
A4-50	Tensile	N_{rec}	[kN]	4,5	7,2	10,5	19,7	30,7	44,2	57,4	70,2
	Shear	V_{rec}	[kN]	2,7	4,5	6,3	11,7	18,3	26,4	34,5	42,0
A4-70	Tensile	N_{rec}	[kN]	6,7	10,1	15,8	22,9	36,3	49,9	-	-
	Shear	V_{rec}	[kN]	6,0	9,2	13,7	25,2	39,4	56,8	-	-

Recommended Loads Dry/Wet Holes (Hollow Drilling)

Non-Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	N_{rec}	[kN]	8,6	13,8	20,0	27,3	43,3	59,4	77,2	91,5
	Shear	V_{rec}	[kN]	5,1	8,6	12,0	22,3	34,9	50,3	65,7	80,0
Steel 8.8	Tensile	N_{rec}	[kN]	13,6	16,7	22,5	27,3	43,3	59,4	77,2	91,5
	Shear	V_{rec}	[kN]	8,6	13,1	19,4	36,0	56,0	80,6	105,1	128,0
A4-50	Tensile	N_{rec}	[kN]	4,5	7,2	10,5	19,7	30,7	44,2	57,4	70,2
	Shear	V_{rec}	[kN]	2,7	4,5	6,3	11,7	18,3	26,4	34,5	42,0
A4-70	Tensile	N_{rec}	[kN]	9,9	15,7	22,5	27,3	43,3	59,4	-	-
	Shear	V_{rec}	[kN]	6,0	9,2	13,7	25,2	39,4	56,8	-	-

Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	N_{rec}	[kN]	5,6	8,4	13,2	19,1	30,3	41,6	54,0	64,0
	Shear	V_{rec}	[kN]	5,1	8,6	12,0	22,3	34,9	50,3	65,7	80,0
Steel 8.8	Tensile	N_{rec}	[kN]	5,6	8,4	13,2	19,1	30,3	41,6	54,0	64,0
	Shear	V_{rec}	[kN]	8,6	13,1	19,4	36,0	56,0	80,6	105,1	128,0
A4-50	Tensile	N_{rec}	[kN]	4,5	7,2	10,5	19,1	30,3	41,6	54,0	64,0
	Shear	V_{rec}	[kN]	2,7	4,5	6,3	11,7	18,3	26,4	34,5	42,0
A4-70	Tensile	N_{rec}	[kN]	5,6	8,4	13,2	19,1	30,3	41,6	-	-
	Shear	V_{rec}	[kN]	6,0	9,2	13,7	25,2	39,4	56,8	-	-

Recommended Loads Flooded Holes

Non-Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	N_{rec}	[kN]	8,6	13,8	19,3	23,4	37,1	50,9	66,1	78,4
	Shear	V_{rec}	[kN]	5,1	8,6	12,0	22,3	34,9	50,3	65,7	80,0
Steel 8.8	Tensile	N_{rec}	[kN]	11,6	14,3	19,3	23,4	37,1	50,9	66,1	78,4
	Shear	V_{rec}	[kN]	8,6	13,1	19,4	36,0	56,0	80,6	105,1	128,0
A4-50	Tensile	N_{rec}	[kN]	4,5	7,2	10,5	19,7	30,7	44,2	57,4	70,2
	Shear	V_{rec}	[kN]	2,7	4,5	6,3	11,7	18,3	26,4	34,5	42,0
A4-70	Tensile	N_{rec}	[kN]	9,9	14,3	19,3	23,4	37,1	50,9	-	-
	Shear	V_{rec}	[kN]	6,0	9,2	13,7	25,2	39,4	56,8	-	-

Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	N_{rec}	[kN]	4,8	7,2	11,3	16,4	26,0	35,6	46,3	54,9
	Shear	V_{rec}	[kN]	5,1	8,6	12,0	22,3	34,9	50,3	65,7	80,0
Steel 8.8	Tensile	N_{rec}	[kN]	4,8	7,2	11,3	16,4	26,0	35,6	46,3	54,9
	Shear	V_{rec}	[kN]	8,6	13,1	19,4	36,0	56,0	80,6	105,1	128,0
A4-50	Tensile	N_{rec}	[kN]	4,5	7,2	10,5	16,4	26,0	35,6	46,3	54,9
	Shear	V_{rec}	[kN]	2,7	4,5	6,3	11,7	18,3	26,4	34,5	42,0
A4-70	Tensile	N_{rec}	[kN]	4,8	7,2	11,3	16,4	26,0	35,6	-	-
	Shear	V_{rec}	[kN]	6,0	9,2	13,7	25,2	39,4	56,8	-	-

Combined tension and shear loading in accordance with EN 1992-4:2018 and AS 5216:2018 please refer to ICCONS Designfix software or contact ICCONS engineering department **engineering@iccons.com.au** for further information.

BIS-HY GEN2

Seismic resistance (for a single anchor)

All data in this section subject to:
- Correct setting (see setting instructions).
- No edge distance and spacing influence.
- Standard embedment depth, as specified in the 'Installation Dimensions' table.
- Concrete C20/25, f_{ck} = 20 N/mm².
- Temperature range I: (max. long/short term temperature +50°C/+80°C).
- Shear loads are calculated without the influence of a lever arm.
- α_{gap} = 1,0 (using special filling washer according ETA-19/0131 Annex A 3).
- Increasing factors for concrete ψ_c: C25/30 to C50/60 = **1,0**

Design Resistance Dry/Wet Holes in case of seismic performance category C1 (Compressed Air Cleaning)

Steel Decisive

Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	$N_{Rd,eq,C1}$	[kN]	9,4	14,1	22,1	27,3	43,3	59,4	77,1	91,4
	Shear	$V_{Rd,eq,C1}$	[kN]	5,0	8,4	11,8	21,8	34,2	49,3	64,4	78,4
Steel 8.8	Tensile	$N_{Rd,eq,C1}$	[kN]	9,4	14,1	22,1	27,3	43,3	59,4	77,1	91,4
	Shear	$V_{Rd,eq,C1}$	[kN]	8,4	12,9	19,0	35,3	54,9	79,0	103,0	125,4
A4-50	Tensile	$N_{Rd,eq,C1}$	[kN]	6,3	10,1	14,7	27,3	43,0	59,4	77,1	91,4
	Shear	$V_{Rd,eq,C1}$	[kN]	2,6	4,4	6,2	11,5	17,9	25,9	33,8	41,2
A4-70	Tensile	$N_{Rd,eq,C1}$	[kN]	9,4	14,1	22,1	27,3	43,3	59,4	-	-
	Shear	$V_{Rd,eq,C1}$	[kN]	5,8	9,0	13,5	24,7	38,6	55,6	-	-

Design Resistance Dry/Wet Holes in case of seismic performance category C1 (Hollow Drilling)

Steel Decisive

Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	$N_{Rd,eq,C1}$	[kN]	7,8	11,8	18,4	22,7	36,0	49,5	64,3	76,2
	Shear	$V_{Rd,eq,C1}$	[kN]	5,0	8,4	11,8	21,8	34,2	49,3	64,4	78,4
Steel 8.8	Tensile	$N_{Rd,eq,C1}$	[kN]	7,8	11,8	18,4	22,7	36,0	49,5	64,3	76,2
	Shear	$V_{Rd,eq,C1}$	[kN]	8,4	12,9	19,0	35,3	54,9	79,0	103,0	125,4
A4-50	Tensile	$N_{Rd,eq,C1}$	[kN]	6,3	10,1	14,7	22,7	36,0	49,5	64,3	76,2
	Shear	$V_{Rd,eq,C1}$	[kN]	2,6	4,4	6,2	11,5	17,9	25,9	33,8	41,2
A4-70	Tensile	$N_{Rd,eq,C1}$	[kN]	7,8	11,8	18,4	22,7	36,0	49,5	-	-
	Shear	$V_{Rd,eq,C1}$	[kN]	5,8	9,0	13,5	24,7	38,6	55,6	-	-

Design Resistance Flooded Holes in case of seismic performance category C1

Steel Decisive

Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	$N_{Rd,eq,C1}$	[kN]	6,7	10,1	15,8	19,5	30,9	42,4	55,1	65,3
	Shear	$V_{Rd,eq,C1}$	[kN]	5,0	8,4	11,8	21,8	34,2	49,3	64,4	78,4
Steel 8.8	Tensile	$N_{Rd,eq,C1}$	[kN]	6,7	10,1	15,8	19,5	30,9	42,4	55,1	65,3
	Shear	$V_{Rd,eq,C1}$	[kN]	8,4	12,9	19,0	35,3	54,9	79,0	103,0	125,4
A4-50	Tensile	$N_{Rd,eq,C1}$	[kN]	6,3	10,1	14,7	19,5	30,9	42,4	55,1	65,3
	Shear	$V_{Rd,eq,C1}$	[kN]	2,6	4,4	6,2	11,5	17,9	25,9	33,8	41,2
A4-70	Tensile	$N_{Rd,eq,C1}$	[kN]	6,7	10,1	15,8	19,5	30,9	42,4	-	-
	Shear	$V_{Rd,eq,C1}$	[kN]	5,8	9,0	13,5	24,7	38,6	55,6	-	-

Design Resistance Dry/Wet Holes in case of seismic performance category C2 (Compressed Air Cleaning)

Steel Decisive

Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 8.8	Tensile	$N_{Rd,eq,C2}$	[kN]	-	-	10,0	14,7	23,5	24,3	-	-
	Shear	$V_{Rd,eq,C2}$	[kN]	-	-	16,9	24,9	39,9	41,3	-	-
A4-70	Tensile	$N_{Rd,eq,C2}$	[kN]	-	-	10,0	14,7	23,5	24,3	-	-
	Shear	$V_{Rd,eq,C2}$	[kN]	-	-	13,5	24,7	38,6	41,3	-	-

Design Resistance Dry/Wet Holes in case of seismic performance category C2 (Hollow Drilling)

Steel Decisive

Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 8.8	Tensile	$N_{Rd,eq,C2}$	[kN]	-	-	8,3	12,2	19,6	20,2	-	-
	Shear	$V_{Rd,eq,C2}$	[kN]	-	-	16,9	24,9	39,9	41,3	-	-
A4-70	Tensile	$N_{Rd,eq,C2}$	[kN]	-	-	8,3	12,2	19,6	20,2	-	-
	Shear	$V_{Rd,eq,C2}$	[kN]	-	-	13,5	24,7	38,6	41,3	-	-

Design Resistance Flooded Holes in case of seismic performance category C2

Steel Decisive

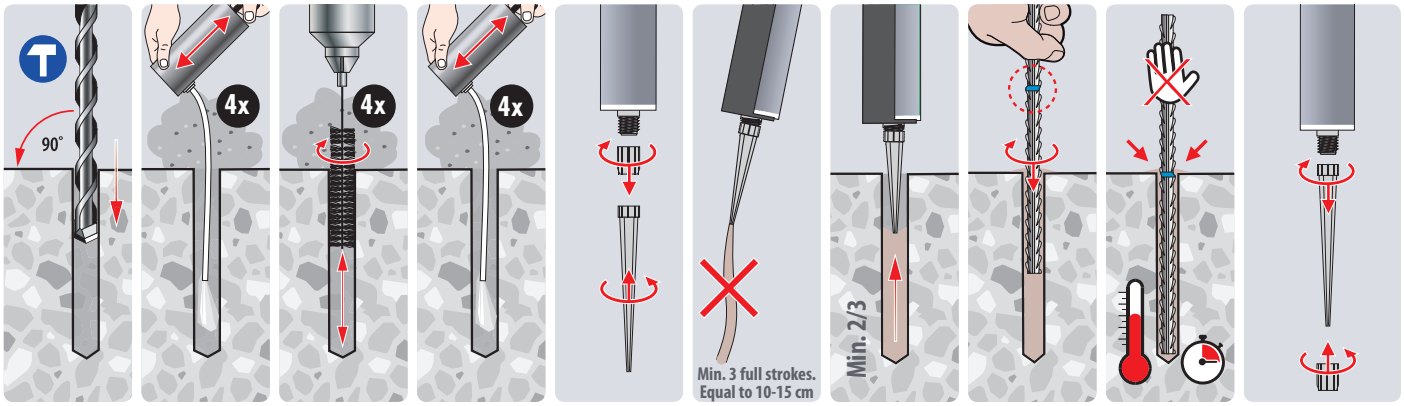
Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 8.8	Tensile	$N_{Rd,eq,C2}$	[kN]	-	-	7,1	10,5	16,8	17,3	-	-
	Shear	$V_{Rd,eq,C2}$	[kN]	-	-	16,9	24,9	39,9	41,3	-	-
A4-70	Tensile	$N_{Rd,eq,C2}$	[kN]	-	-	7,1	10,5	16,8	17,3	-	-
	Shear	$V_{Rd,eq,C2}$	[kN]	-	-	13,5	24,7	38,6	41,3	-	-

Combined tension and shear loading in accordance with EN 1992-4:2018 and AS 5216:2018 please refer to ICCONS Designfix software or contact ICCONS engineering department **engineering@iccons.com.au** for further information.

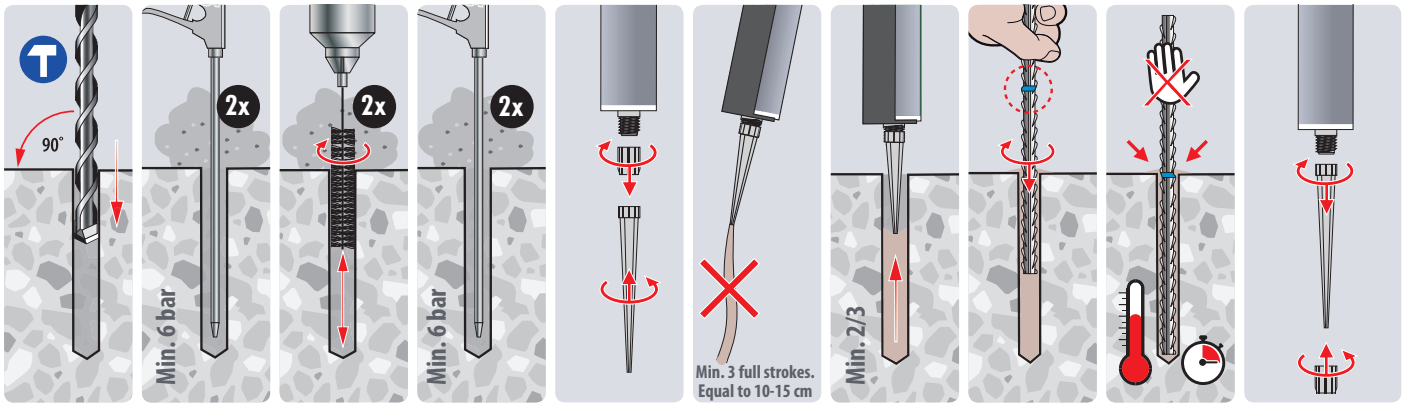
BIS-HY GEN2

Installation Procedures (Hand Pump Cleaning)

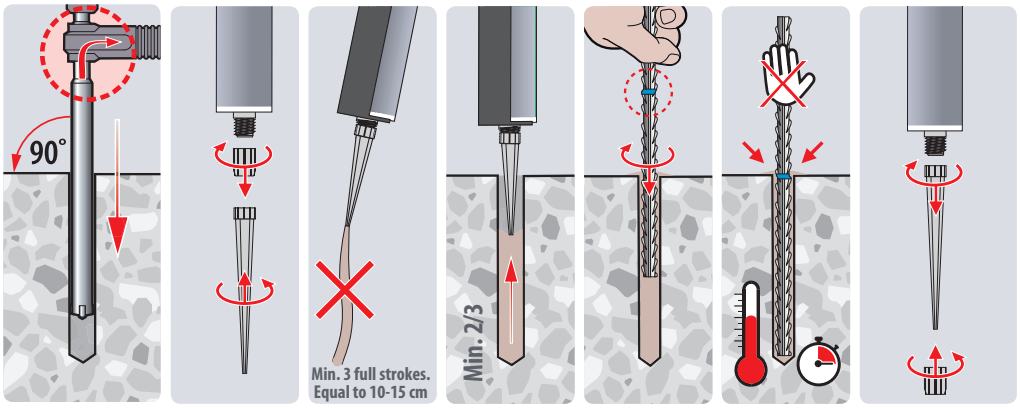
Hand Pump Cleaning for bore hole diameter $d_0 \leq 20$mm, bore hole depth $h_0 \leq 10d_{nom}$ and Non-Cracked Concrete only.



Installation Procedures (Compressed Air Cleaning)



Installation Procedures (Hollow Drilling) - Heller Duster Expert Hollow Drill Bits



DONE AND DUSTLESS

Curing Times[1)]

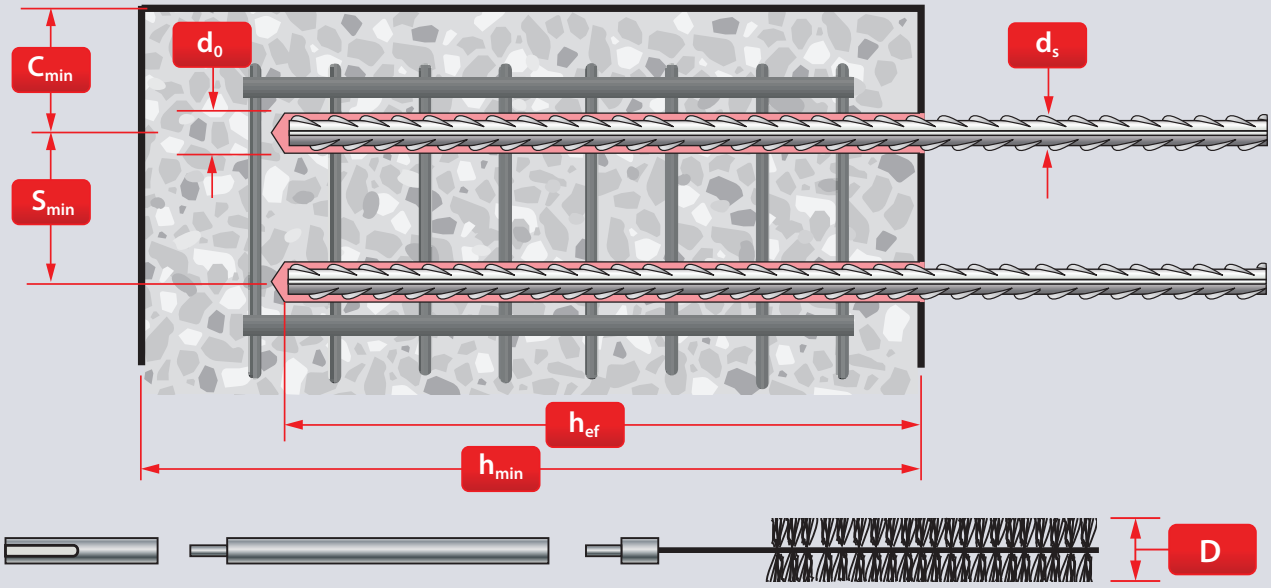
Temperature[2)] °C	-5 to -1	0 to +4	+5 to +9	+10 to + 14	+15 to +19	+20 to +29	+30 to +40
Processing/Working Time	50 min	25 min	15 min	10 min	6 min	3 min	2 min
Curing Time Dry Holes	5 h	3,5 h	2 h	1h	40 min	30 min	30 min
Curing Time Wet Holes	10 h	7 h	4 h	2h	80 min	60 min	60 min

1) Cartridge Temperature must be between +5°C and +40°C. 2) Concrete Temperature

ETA - 19/0131

Specification Data for the use in Cracked & Uncracked Concrete and Hammer/Air Drilled Holes according to EN 1992-4:2018 , AS 5216:2018 and Technical Report TR 055

For Post-Installed Rebar Connections Design in Accordance with AEFAC Technical Note and AS 3600 please refer to ICCONS Doc: BIS-HY GEN2-REBAR-Post-Installed-AEFAC-Tech-Note



Installation Dimensions

Rebar Size	d_{nom}		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø24	Ø25	Ø28	Ø32
Min. Eff. Anchorage Depth	$h_{ef,min}$	[mm]	60	60	70	75	80	90	96	100	112	128
Max. Eff. Anchorage Depth	$h_{ef,max}$	[mm]	160	200	240	280	320	400	480	500	560	640
Hole Diameter	d_0	[mm]	12	14	16	18	20	25	32	32	35	40
Required Volume per cm Embedment Depth	V_s	[ml/cm]	0,75	0,90	1,06	1,21	1,36	2,12	4,22	3,76	4,16	5,43

Member Thickness, Edge Distance & Spacing

Rebar Size	d_{nom}		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø24	Ø25	Ø28	Ø32
Min. Member Thickness	h_{min}	[mm]	h_{ef} + 30 mm ≥100 mm		$h_{ef} + 2_{d0}$							
Min. Edge Distance	C_{min}	[mm]	35	40	45	50	50	60	70	70	75	85
Min. Spacing	S_{min}	[mm]	40	50	60	70	75	95	120	120	130	150

Steel Brush & Piston Plug Dimensions

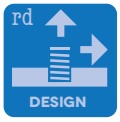
Rebar Size	d_{nom}		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø24	Ø25	Ø28	Ø32
Brush Diameter	D	[mm]	13,5	15,5	17,5	20,0	20,0	27,0	34,0	34,0	37,0	43,5
Min. Brush Diameter	D_{min}	[mm]	12,5	14,5	16,5	18,5	20,5	25,5	32,5	32,5	35,5	40,5
Piston Plug	#	--	No piston plug required			18	20	25	32	32	35	40

BIS-HY GEN2

Static and quasi-static resistance (for a single rebar)

All data in this section subject to:

- Correct setting (see setting instructions).
- No edge distance and spacing influence.
- Minimum and maximum embedment depth, as specified in the 'Installation Dimensions' table.
- Concrete C20/25, f_{ck} = 20 N/mm².
- Temperature range I: (max. long/short term temperature +50°C/+80°C).
- Shear loads are calculated without the influence of a lever arm.
- ψ_{sus} = 1,0 according EN 1992-4:2018; eq. 7.14a.
- Recommended loads are with overall partial safety factor for action γ_G = 1,4.
  The partial safety factors for action depend on the type of loading and shall be taken from national regulations.



Combined tension and shear loading in accordance with EN 1992-4:2018 and AS 5216:2018 please refer to ICCONS Designfix software or contact ICCONS engineering department **engineering@iccons.com.au** for further information.

Design Resistance Dry/Wet Holes (Compressed Air Cleaning)

Steel Decisive

Non-Cracked Concrete		d_{nom}		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø24	Ø25	Ø28	Ø32
B500B (D500N)	Tensile Min.	$N_{Rd,min}$	[kN]	14,1	15,2	19,2	21,3	23,5	28,0	30,8	32,8	38,9	47,5
	Tensile Max.	$N_{Rd,max}$	[kN]	19,7	30,9	44,4	60,5	79,0	123,4	177,7	192,8	241,9	316,0
	Shear Min.	$V_{Rd,min}$	[kN]	9,2	14,4	20,7	28,2	36,9	56,0	61,7	65,6	77,7	95,0
	Shear Max.	$V_{Rd,max}$	[kN]	9,2	14,4	20,7	28,2	36,9	57,6	82,9	90,0	112,9	147,4

Cracked Concrete		d_{nom}		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø24	Ø25	Ø28	Ø32
B500B (D500N)	Tensile Min.	$N_{Rd,min}$	[kN]	5,5	6,9	10,6	14,3	16,4	19,6	21,6	23,0	27,2	33,2
	Tensile Max.	$N_{Rd,max}$	[kN]	14,7	23,0	36,2	53,4	69,7	108,9	156,8	183,3	229,9	300,3
	Shear Min.	$V_{Rd,min}$	[kN]	9,2	13,8	20,7	28,2	32,9	39,2	43,2	45,9	54,4	66,5
	Shear Max.	$V_{Rd,max}$	[kN]	9,2	14,4	20,7	28,2	36,9	57,6	82,9	90,0	112,9	147,4

Design Resistance Dry/Wet Holes (Hollow Drilling)

Steel Decisive

Non-Cracked Concrete		d_{nom}		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø24	Ø25	Ø28	Ø32
B500B (D500N)	Tensile Min.	$N_{Rd,min}$	[kN]	11,7	12,7	16,0	17,8	19,6	23,3	25,7	27,3	32,4	39,6
	Tensile Max.	$N_{Rd,max}$	[kN]	19,7	30,9	44,4	60,5	79,0	123,4	177,7	192,8	241,9	316,0
	Shear Min.	$V_{Rd,min}$	[kN]	9,2	14,4	20,7	28,2	36,9	56,0	61,7	65,6	77,7	95,0
	Shear Max.	$V_{Rd,max}$	[kN]	9,2	14,4	20,7	28,2	36,9	57,6	82,9	90,0	112,9	147,4

Cracked Concrete		d_{nom}		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø24	Ø25	Ø28	Ø32
B500B (D500N)	Tensile Min.	$N_{Rd,min}$	[kN]	4,6	5,8	8,8	11,9	13,7	16,3	18,0	19,1	22,7	27,7
	Tensile Max.	$N_{Rd,max}$	[kN]	12,3	19,2	30,2	44,5	58,1	90,8	130,7	152,7	191,6	250,2
	Shear Min.	$V_{Rd,min}$	[kN]	9,2	13,8	20,7	28,2	32,9	39,2	43,2	45,9	54,4	66,5
	Shear Max.	$V_{Rd,max}$	[kN]	9,2	14,4	20,7	28,2	36,9	57,6	82,9	90,0	112,9	147,4

Design Resistance (Flooded Holes)

Steel Decisive

Non-Cracked Concrete		d_{nom}		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø24	Ø25	Ø28	Ø32
B500B (D500N)	Tensile Min.	$N_{Rd,min}$	[kN]	10,1	10,9	13,7	15,2	16,8	20,0	22,0	23,4	27,8	33,9
	Tensile Max.	$N_{Rd,max}$	[kN]	19,7	30,9	44,4	60,5	79,0	123,4	177,7	192,8	241,9	316,0
	Shear Min.	$V_{Rd,min}$	[kN]	9,2	14,4	20,7	28,2	36,9	56,0	61,7	65,6	77,7	95,0
	Shear Max.	$V_{Rd,max}$	[kN]	9,2	14,4	20,7	28,2	36,9	57,6	82,9	90,0	112,9	147,4

Design Resistance (Flooded Holes, Cont'd)

Steel Decisive

Cracked Concrete		d_{nom}		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø24	Ø25	Ø28	Ø32
B500B (D500N)	Tensile Min.	$N_{Rd,min}$	[kN]	3,9	4,9	7,5	10,2	11,7	14,0	15,4	16,4	19,4	23,7
	Tensile Max.	$N_{Rd,max}$	[kN]	10,5	16,5	25,9	38,1	49,8	77,8	112,0	130,9	164,2	214,5
	Shear Min.	$V_{Rd,min}$	[kN]	9,2	13,8	20,7	28,2	32,9	39,2	43,2	45,9	54,4	66,5
	Shear Max.	$V_{Rd,max}$	[kN]	9,2	14,4	20,7	28,2	36,9	57,6	82,9	90,0	112,9	147,4

Combined tension and shear loading in accordance with EN 1992-4:2018 and AS 5216:2018 please refer to ICCONS Designfix software or contact ICCONS engineering department **engineering@iccons.com.au** for further information.

Recommended Loads Dry/Wet Holes (Compressed Air Cleaning)

Non-Cracked Concrete		d_{nom}		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø24	Ø25	Ø28	Ø32
B500B (D500N)	Tensile Min.	$N_{Rrec,min}$	[kN]	10,1	10,9	13,7	15,2	16,8	20,0	22,0	23,4	27,8	33,9
	Tensile Max.	$N_{Rrec,max}$	[kN]	14,1	22,0	31,7	43,2	56,4	88,2	126,9	137,7	172,8	225,7
	Shear Min.	$V_{Rrec,min}$	[kN]	6,6	10,3	14,8	20,2	26,3	40,0	44,1	46,9	55,5	67,8
	Shear Max.	$V_{Rrec,max}$	[kN]	6,6	10,3	14,8	20,2	26,3	41,1	59,2	64,3	80,6	105,3

Cracked Concrete		d_{nom}		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø24	Ø25	Ø28	Ø32
B500B (D500N)	Tensile Min.	$N_{Rrec,min}$	[kN]	3,9	4,9	7,5	10,2	11,7	14,0	15,4	16,4	19,4	23,7
	Tensile Max.	$N_{Rrec,max}$	[kN]	10,5	16,5	25,9	38,1	49,8	77,8	112,0	130,9	164,2	214,5
	Shear Min.	$V_{Rrec,min}$	[kN]	6,6	9,9	14,8	20,2	23,5	28,0	30,8	32,8	38,9	47,5
	Shear Max.	$V_{Rrec,max}$	[kN]	6,6	10,3	14,8	20,2	26,3	41,1	59,2	64,3	80,6	105,3

Recommended Loads Dry/Wet Holes (Hollow Drilling)

Non-Cracked Concrete		d_{nom}		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø24	Ø25	Ø28	Ø32
B500B (D500N)	Tensile Min.	$N_{Rrec,min}$	[kN]	8,4	9,1	11,4	12,7	14,0	16,7	18,4	19,5	23,1	28,3
	Tensile Max.	$N_{Rrec,max}$	[kN]	14,1	22,0	31,7	43,2	56,4	88,2	126,9	137,7	172,8	225,7
	Shear Min.	$V_{Rrec,min}$	[kN]	6,6	10,3	14,8	20,2	26,3	40,0	44,1	46,9	55,5	67,8
	Shear Max.	$V_{Rrec,max}$	[kN]	6,6	10,3	14,8	20,2	26,3	41,1	59,2	64,3	80,6	105,3

Cracked Concrete		d_{nom}		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø24	Ø25	Ø28	Ø32
B500B (D500N)	Tensile Min.	$N_{Rrec,min}$	[kN]	3,3	4,1	6,3	8,5	9,8	11,7	12,9	13,7	16,2	19,8
	Tensile Max.	$N_{Rrec,max}$	[kN]	8,8	13,7	21,5	31,8	41,5	64,8	93,4	109,1	136,8	178,7
	Shear Min.	$V_{Rrec,min}$	[kN]	6,6	9,9	14,8	20,2	23,5	28,0	30,8	32,8	38,9	47,5
	Shear Max.	$V_{Rrec,max}$	[kN]	6,6	10,3	14,8	20,2	26,3	41,1	59,2	64,3	80,6	105,3

Recommended Loads (Flooded Holes)

Non-Cracked Concrete		d_{nom}		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø24	Ø25	Ø28	Ø32
B500B (D500N)	Tensile Min.	$N_{Rrec,min}$	[kN]	7,2	7,8	9,8	10,9	12,0	14,3	15,7	16,7	19,8	24,2
	Tensile Max.	$N_{Rrec,max}$	[kN]	14,1	22,0	31,7	43,2	56,4	88,2	126,9	137,7	172,8	225,7
	Shear Min.	$V_{Rrec,min}$	[kN]	6,6	10,3	14,8	20,2	26,3	40,0	44,1	46,9	55,5	67,8
	Shear Max.	$V_{Rrec,max}$	[kN]	6,6	10,3	14,8	20,2	26,3	41,1	59,2	64,3	80,6	105,3

Cracked Concrete		d_{nom}		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø24	Ø25	Ø28	Ø32
B500B (D500N)	Tensile Min.	$N_{Rrec,min}$	[kN]	2,8	3,5	5,4	7,3	8,4	10,0	11,0	11,7	13,9	17,0
	Tensile Max.	$N_{Rrec,max}$	[kN]	7,5	11,8	18,5	27,2	35,6	55,6	80,0	93,5	117,3	153,2
	Shear Min.	$V_{Rrec,min}$	[kN]	6,6	9,9	14,8	20,2	23,5	28,0	30,8	32,8	38,9	47,5
	Shear Max.	$V_{Rrec,max}$	[kN]	6,6	10,3	14,8	20,2	26,3	41,1	59,2	64,3	80,6	105,3

BIS-HY GEN2

Seismic resistance (for a single rebar)

All data in this section subject to:
- Correct setting (see setting instructions).
- No edge distance and spacing influence.
- Minimum and maximum embedment depth, as specified in the 'Installation Dimensions' table.
- Concrete C20/25, f_{ck} = 20 N/mm².
- Temperature range I: (max. long/short term temperature +50°C/+80°C).
- Shear loads are calculated without the influence of a lever arm.
- α_{gap} = 1,0 (using special filling washer according ETA-19/0131 Annex A 3).
- Increasing factors for concrete ψc: C25/30 to C50/60 = **1,0**

Design Resistance Dry/Wet Holes in case of seismic performance category C1 (Compressed Air Cleaning)

Steel Decisive

Cracked Concrete		d_{nom}		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø24	Ø25	Ø28	Ø32
B500B (D500N)	Tensile Min.	$N_{Rd,eq,min}$	[kN]	5,5	6,9	10,6	12,7	14,0	16,7	18,4	19,5	23,1	28,3
	Tensile Max.	$N_{Rd,eq,max}$	[kN]	14,7	23,0	36,2	53,4	69,7	108,9	156,8	183,3	229,9	300,3
	Shear Min.	$V_{Rd,eq,min}$	[kN]	6,5	10,1	14,5	19,8	23,7	28,3	31,2	33,2	39,3	48,0
	Shear Max.	$V_{Rd,eq,max}$	[kN]	6,5	10,1	14,5	19,8	25,8	40,3	58,1	63,0	79,0	103,2

Design Resistance Dry/Wet Holes in case of seismic performance category C1 (Hollow Drilling)

Steel Decisive

Cracked Concrete		d_{nom}		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø24	Ø25	Ø28	Ø32
B500B (D500N)	Tensile Min.	$N_{Rd,eq,min}$	[kN]	4,6	5,8	8,8	10,6	11,6	13,9	15,3	16,3	19,3	23,5
	Tensile Max.	$N_{Rd,eq,max}$	[kN]	12,3	19,2	30,2	44,5	58,1	90,8	130,7	152,7	191,6	250,2
	Shear Min.	$V_{Rd,eq,min}$	[kN]	6,5	10,1	14,5	19,8	23,7	28,3	31,2	33,2	39,3	48,0
	Shear Max.	$V_{Rd,eq,max}$	[kN]	6,5	10,1	14,5	19,8	25,8	40,3	58,1	63,0	79,0	103,2

Design Resistance in case of seismic performance category C1 (Flooded Holes)

Steel Decisive

Cracked Concrete		d_{nom}		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø24	Ø25	Ø28	Ø32
B500B (D500N)	Tensile Min.	$N_{Rd,eq,min}$	[kN]	3,9	4,9	7,5	9,1	10,0	11,9	13,1	13,9	16,5	20,2
	Tensile Max.	$N_{Rd,eq,max}$	[kN]	10,5	16,5	25,9	38,1	49,8	77,8	112,0	130,9	164,2	214,5
	Shear Min.	$V_{Rd,eq,min}$	[kN]	6,5	10,1	14,5	19,8	23,7	28,3	31,2	33,2	39,3	48,0
	Shear Max.	$V_{Rd,eq,max}$	[kN]	6,5	10,1	14,5	19,8	25,8	40,3	58,1	63,0	79,0	103,2

Combined tension and shear loading in accordance with EN 1992-4:2018 and AS 5216:2018 please refer to ICCONS Designfix software or contact ICCONS engineering department **engineering@iccons.com.au** for further information.

Hybrid Injection Adhesive ETA Option 1 Assessed for Cracked & Non-Cracked Concrete

Material Properties & Chemical Resistance

BIS-HY GEN2 Mortar Properties

B+BTec BIS-HY GEN2 injection mortar may be applied in cracked and non-cracked concrete, lightweight-concrete, aerated-concrete and natural stone (Attention! natural stone, can discolour, this shall be checked in advance. In the table below the physical properties of the B+BTec BIS-HY GEN2 are listed.

Properties	Test Method	Result
UV resistance		Pass
Watertightness	DIN EN 12390-8	0 mm
Temperature stability		≤ 160°C
Density		1780 kg/m³
Compressive strength	DIN EN 196-1	122 N/mm²
Tensile strength	DIN EN ISO 527-2	14,9 N/mm²
Flexural strength	DIN EN 196-1	22,2 N/mm²
E-modulus	DIN EN ISO 527-2	8300 N/mm²
Shrinkage	DIN 52450	< 0,2 %
Hardness Shore A	DIN EN ISO 868	97,6
Electrical resistance	DIN IEC 93	7,2 x 1013 Ωm
Thermal conductivity	DIN EN 993-15	1,06 W/m·K
Thermal heat capacity	DIN EN 993-15	1.090 J/kg·K

BIS-HY GEN2 Chemical Resistance

RESISTANT

NOT RESISTANT

Chemical Agent	Concentration	Resistant	Not resistant
Acetic acid	10	■	
Acetone	100		■
Ammonia, aqueous solution	5	■	
Benzyl Alcohol	100		■
Chlorinated lime	10	■	
Citric acid	10	■	
Chlorine water, swimming pool	all	■	
Demineralised Water	100	■	
Diesel oil	100	■	
Ethanol	100		■
Ethyl Acetate	100		■
Formic acid	100		■
Fuel Oil	100	■	
Gasoline (premium grade)	100	■	
Glycol (Ethylene glycol)	100		■
Hydraulic fluid	100	■	
Hydrogen peroxide	10		■
Isopropyl alcohol	100		■
Lactic acid	10	■	
Linseed oil	100	■	
Lubricating oil	100	■	
Nitric acid	10		■
Methanol	100		■
Phosphoric acid	10	■	
Potassium Hydroxide ph 13.2	100	■	
Salt (Calcium Chloride)	100	■	
Sea water, salty	100	■	
Sodium carbonate	10	■	
Sulfuric acid	10	■	

INNOVATIVE SOFTWARE – ANCHOR DESIGN MADE EASY

- Innovative 3d visual user interface, ETAG-001 & AS 5216:2018 compliant Fasteners.
- SEISMIC DESIGN under earthquake loads according to ETAG-001, Annex E, TR045
- Finite element analysis steel baseplate design

ICCONS® DesignFiX Software is simple, intuitive and FREE to DOWNLOAD anchor design program for Design Engineers, Project Managers, Site Engineers and End Users. Complex mechanical or chemical heavy duty anchor arrangements can be calculated in minutes. All designs are ETA based and qualify under AS 5216:2018 now directly referenced in the National Construction Code 2019.

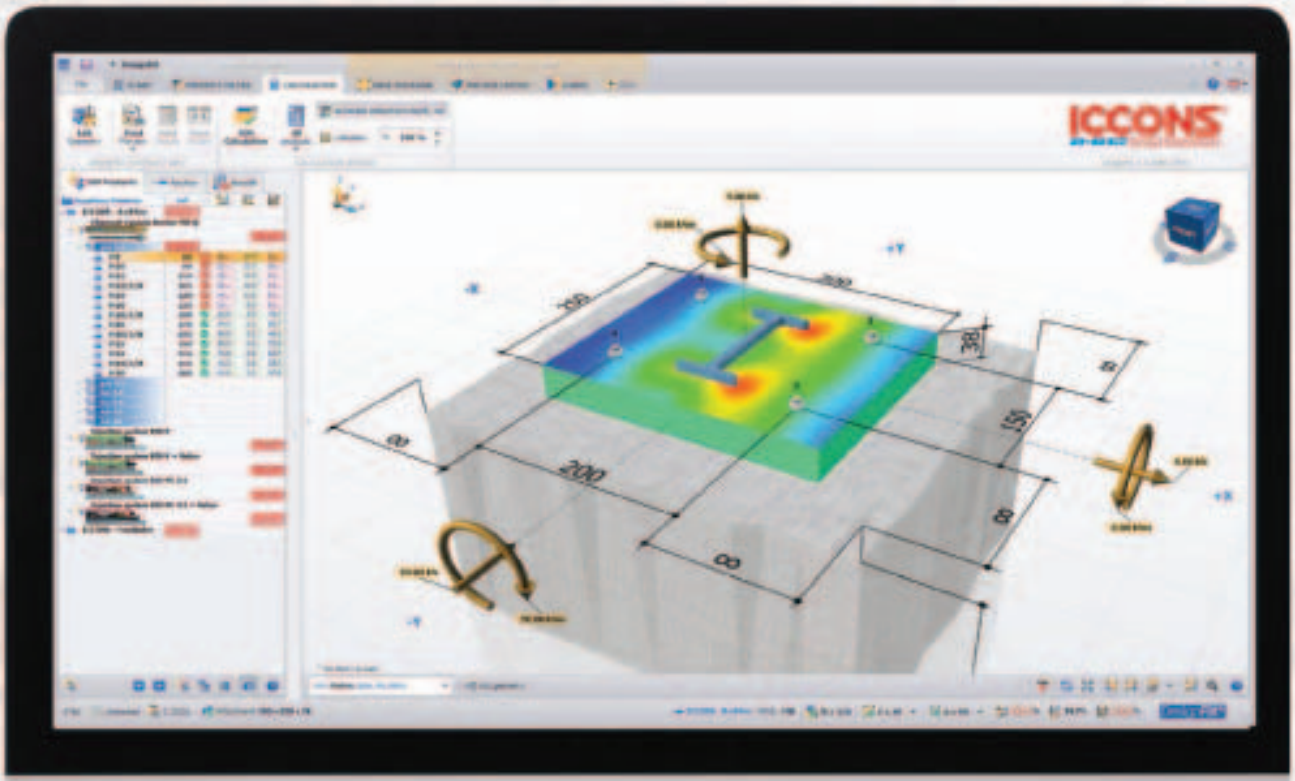
With input Freedom & 3D user Interface ICCONS® DesignFiX offers complete freedom to select an anchor pattern and base plate configuration, as well as the position and direction of load combinations. Changes are made directly into the 3D user interface.

Anchor Type Comparison

ICCONS® DesignFiX displays the usability of the various anchor types (according to ETAG-001, Annex C, TR029), including the values for each load type. This allows you to compare the calculation result of the different anchor types in a single easy to read panel.

Optimum BIS Injection System Anchorage Depth when selecting a BIS Injection Mortar.

ICCONS® DesignFiX allows for the automatic calculation of the most effective anchorage depth, taking in consideration the minimal and maximum values of the ETA.
The integrated FEM-Calculation Method (Finite Element Method) in ICCONS® DesignFiX allows you to calculate the base plate thickness based upon the stresses in the base plate combination with the base plate configuration.



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