ICCONS® Serious Connections

TDS 2018.3

BIS-HY GEN2

Hybrid GEN 2

NEW! NEXT GENERATION HYBRID ADHESIVES

100+ YEAR DESIGN LIFE

COMPLIES WITH AS 5216 FOR POST-INSTALLED FASTENINGS

DONE AND DUSTLESS

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

LEED

TECHNICAL MANUAL

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BIS

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BIS-HY GEN2, Hybrid

Threaded Rod

Rebar

General

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
- Supported By ICCONS® DesignPro Software

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

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100+ YEAR DESIGN LIFE

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 +40°C	+24°C	+40°C
Temp. Range II	-40°C to +80°C	+50°C	+80°C
Temp. Range III	-40°C to +120°C	+72°C	+120°C
Temp. Range IV	-40°C to +160°C	+100°C	+160°C

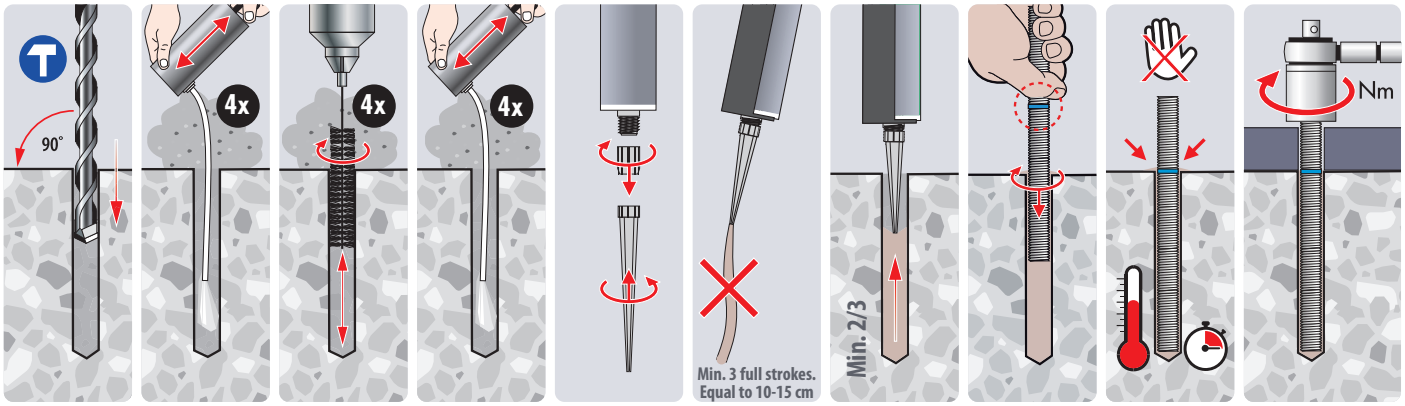
COMPLIES WITH AS 5216 FOR POST-INSTALLED FASTENINGS

DONE AND DUSTLESS

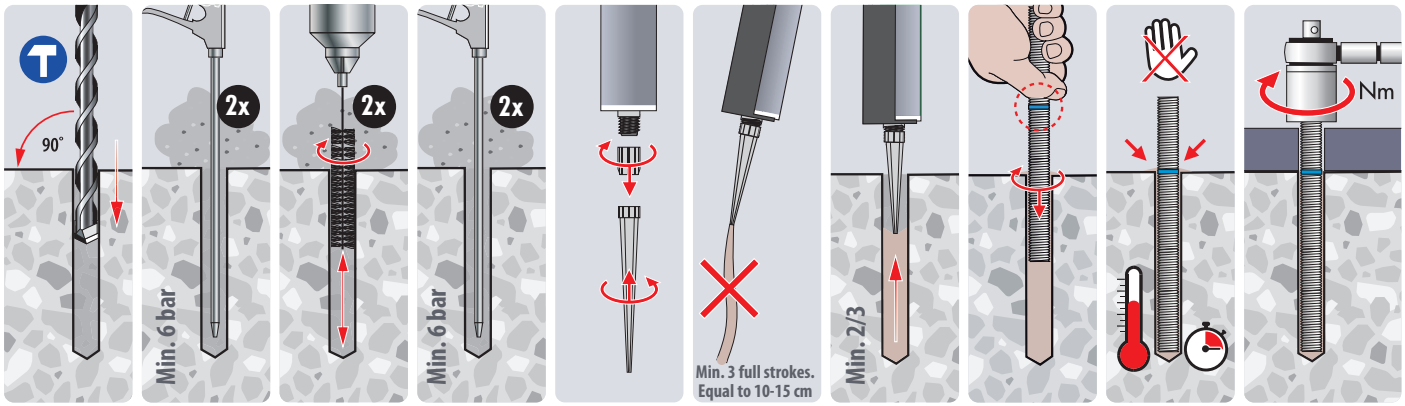
BIS-HY GEN2

Installation Procedures (Hand Pump Cleaning)

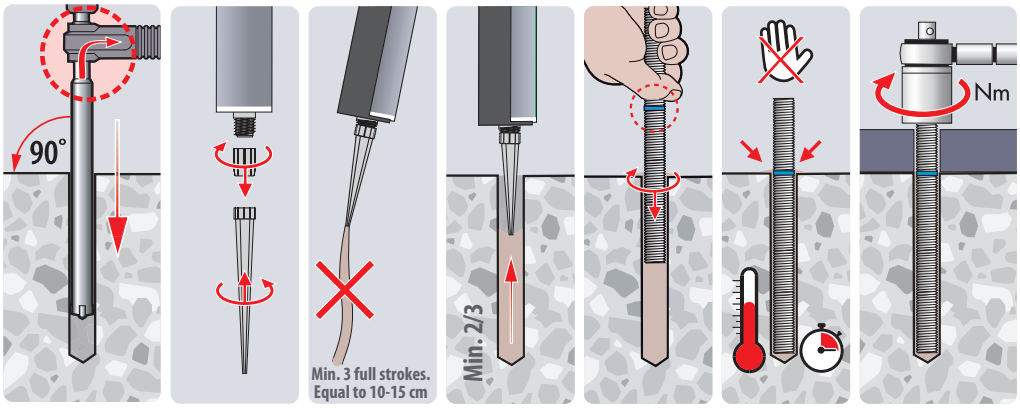
Hand Pump Cleaning for bore hole diameter $d_0 \leq 20$mm, bore hole depth $h_0 \leq 10d_{nom}$ and Non-Cracked Concrete only.



Installation Procedures (Compressed Air Cleaning)



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



DONE AND DUSTLESS

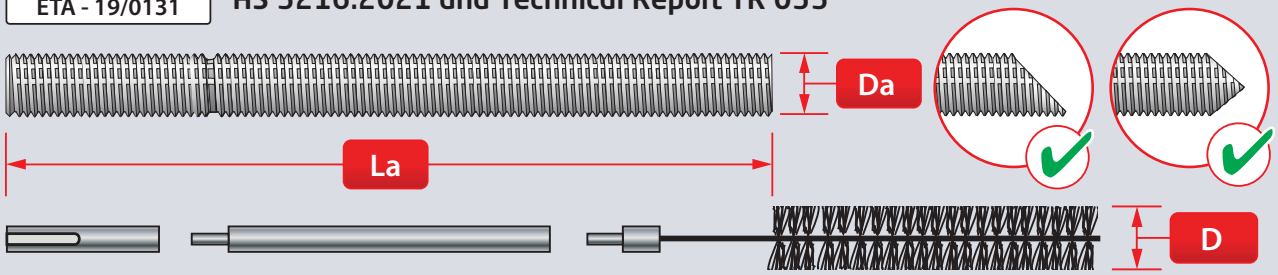
Curing Times[1)]

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

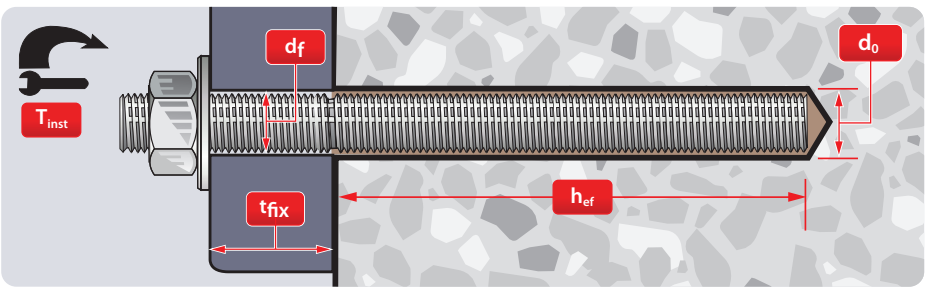
Specification Data for the use in Cracked & Uncracked Concrete and Hammer/Air Drilled Holes according to EN 1992-4:2018, AS 5216:2021 and Technical Report TR 055

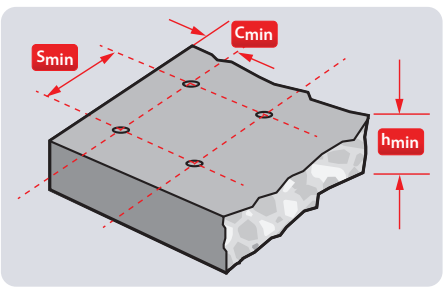


Installation Dimensions

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 service life of 50 years (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 II: (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 and AS 5216:2021 section 6.2.5.2.
- 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

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 AS 5216:2021 please refer to ICCONS® DesignPro 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	-	-

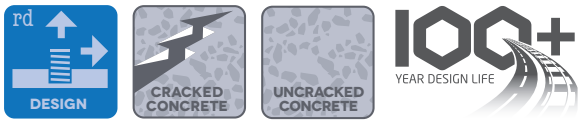
Combined tension and shear loading in accordance with AS 5216:2021 please refer to ICCONS® DesignPro software or contact ICCONS® engineering department **engineering@iccons.com.au** for further information.

BIS-HY GEN2

Static and quasi-static resistance for a service life of 100 years (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 ($h_{ef,calc}$), as specified in the 'Installation Dimensions' table.
- Concrete C20/25, fck = 20 N/mm².
- Temperature range I: (max. long/short term temperature +24°C/+40°C).
- Temperature range II: (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 and AS 5216:2021 section 6.2.5.2.
- 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.



Design Resistance Dry/Wet Holes (Hammer Drilled - CAC)

Steel Decisive

Non-Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	N_{Rd}	(kN)	12,00	19,30	28,00	45,80	72,69	99,80	129,64	153,66
	Shear	V_{Rd}	(kN)	8,80	13,60	20,00	37,60	59,20	84,80	110,40	134,40
Steel 8.8	Tensile	N_{Rd}	(kN)	19,30	28,00	37,80	45,80	72,69	99,80	129,64	153,66
	Shear	V_{Rd}	(kN)	12,00	18,40	27,20	50,40	78,40	112,80	147,20	179,20
A4-50	Tensile	N_{Rd}	(kN)	6,30	10,10	14,70	27,60	43,00	61,89	80,42	98,25
	Shear	V_{Rd}	(kN)	3,80	6,30	8,80	16,40	25,63	36,98	48,32	58,82
A4-70	Tensile	N_{Rd}	(kN)	13,90	21,90	31,60	45,80	72,70	99,80	-	-
	Shear	V_{Rd}	(kN)	8,30	12,80	19,20	35,30	55,10	79,49	-	-

Design Resistance Dry/Wet Holes (Hammer Drilled - CAC only)

Steel Decisive

Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	N_{Rd}	(kN)	7,40	11,30	17,97	27,20	46,29	68,61	90,75	107,56
	Shear	V_{Rd}	(kN)	8,80	13,60	20,00	37,60	59,20	84,80	110,40	134,40
Steel 8.8	Tensile	N_{Rd}	(kN)	7,40	11,30	17,97	27,20	49,26	68,61	90,75	107,56
	Shear	V_{Rd}	(kN)	12,00	18,40	27,20	50,40	78,40	112,80	147,20	179,20
A4-50	Tensile	N_{Rd}	(kN)	6,30	10,10	14,70	27,20	43,01	61,89	80,42	98,25
	Shear	V_{Rd}	(kN)	3,80	6,30	8,80	16,40	25,63	36,98	48,32	58,82
A4-70	Tensile	N_{Rd}	(kN)	7,40	11,30	17,97	27,20	46,29	68,61	-	-
	Shear	V_{Rd}	(kN)	8,30	12,80	19,20	35,30	55,13	79,49	-	-

Combined tension and shear loading in accordance with AS 5216:2021 please refer to ICCONS® DesignPro software or contact ICCONS® engineering department **engineering@iccons.com.au** for further information.

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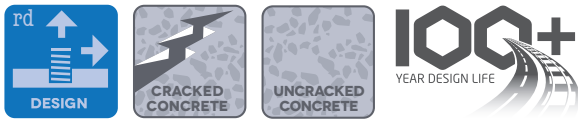


Design Resistance Flooded Holes (Hammer Drilled - CAC)

Steel Decisive

Non - Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	N_{Rd}	(kN)	12,00	19,30	27,00	32,70	51,92	71,29	92,60	109,76
	Shear	V_{Rd}	(kN)	8,80	13,60	20,00	37,60	59,20	84,80	110,40	134,40
Steel 8.8	Tensile	N_{Rd}	(kN)	16,30	20,00	27,00	32,70	51,92	71,29	92,60	109,76
	Shear	V_{Rd}	(kN)	12,00	18,40	27,20	50,40	78,40	112,80	147,20	179,20
A4-50	Tensile	N_{Rd}	(kN)	6,30	10,10	14,70	27,60	43,01	61,89	80,42	98,25
	Shear	V_{Rd}	(kN)	3,80	6,30	8,80	16,40	25,63	36,98	48,32	58,82
A4-70	Tensile	N_{Rd}	(kN)	13,90	20,00	27,00	32,70	51,92	71,29	-	-
	Shear	V_{Rd}	(kN)	8,30	12,80	19,20	35,30	55,13	79,49	-	-

Steel Decisive

Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	N_{Rd}	(kN)	5,30	8,10	12,80	19,50	33,06	49,01	64,82	76,83
	Shear	V_{Rd}	(kN)	8,80	13,60	20,00	37,60	59,20	84,80	110,40	134,40
Steel 8.8	Tensile	N_{Rd}	(kN)	5,30	8,10	12,80	19,50	33,06	49,01	64,82	76,83
	Shear	V_{Rd}	(kN)	12,00	18,40	27,20	50,40	78,40	112,80	147,20	179,20
A4-50	Tensile	N_{Rd}	(kN)	5,30	8,10	12,80	19,50	33,06	49,01	64,82	76,83
	Shear	V_{Rd}	(kN)	3,80	6,30	8,80	16,40	25,63	36,98	48,32	58,83
A4-70	Tensile	N_{Rd}	(kN)	5,30	8,10	12,80	19,50	33,06	49,01	-	-
	Shear	V_{Rd}	(kN)	8,30	12,80	19,20	35,30	55,13	79,49	-	-

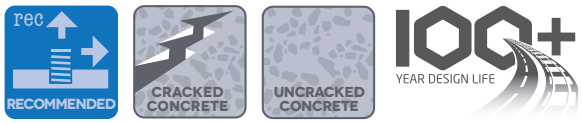
Combined tension and shear loading in accordance with AS 5216:2021 please refer to ICCONS® DesignPro software or contact ICCONS® engineering department **engineering@iccons.com.au** for further information.

BIS-HY GEN2

Static and quasi-static resistance for a service life of 100 years (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 ($h_{ef,calc}$), as specified in the 'Installation Dimensions' table.
- Concrete C20/25, fck = 20 N/mm².
- Temperature range I: (max. long/short term temperature +24°C/+40°C).
- Temperature range II: (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 and AS 5216:2021 section 6.2.5.2.
- 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.



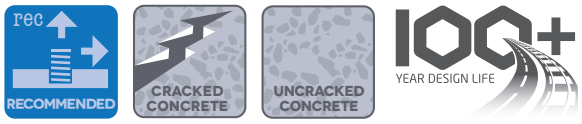
Recommended Loads Dry/wet Holes (Hammer Drilled)

Non-Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	N_{rec}	(kN)	8,57	13,79	20,00	32,71	51,92	71,29	92,60	109,76
	Shear	V_{rec}	(kN)	6,29	9,71	14,29	26,86	42,29	60,57	78,86	96,00
Steel 8.8	Tensile	N_{rec}	(kN)	13,79	20,00	27,00	32,71	51,92	71,29	92,60	109,76
	Shear	V_{rec}	(kN)	8,57	13,14	19,43	36,00	56,00	80,57	105,14	128,00
A4-50	Tensile	N_{rec}	(kN)	4,50	7,21	10,50	19,71	30,71	44,21	57,44	70,18
	Shear	V_{rec}	(kN)	2,71	4,50	6,29	11,71	18,31	26,41	34,51	42,01
A4-70	Tensile	N_{rec}	(kN)	9,93	15,64	22,57	32,71	51,93	71,29	-	-
	Shear	V_{rec}	(kN)	5,93	9,14	13,71	25,21	39,36	56,78	-	-

Recommended Loads Dry/Wet Holes (Hammer Drilled - CAC only)

Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	N_{rec}	(kN)	5,29	8,07	12,84	19,43	33,06	49,01	64,82	76,83
	Shear	V_{rec}	(kN)	6,29	9,71	14,29	26,86	42,29	60,57	78,86	96,00
Steel 8.8	Tensile	N_{rec}	(kN)	5,29	8,07	12,84	19,43	35,19	49,01	64,82	76,83
	Shear	V_{rec}	(kN)	8,57	13,14	19,43	36,00	56,00	80,57	105,14	128,00
A4-50	Tensile	N_{rec}	(kN)	4,50	7,21	10,50	19,43	30,72	44,21	57,44	70,18
	Shear	V_{rec}	(kN)	2,71	4,50	6,29	11,71	18,31	26,41	34,51	42,01
A4-70	Tensile	N_{rec}	(kN)	5,29	8,07	12,84	19,43	33,06	49,01	-	-
	Shear	V_{rec}	(kN)	5,93	9,14	13,71	25,21	39,38	56,78	-	-

Combined tension and shear loading in accordance with AS 5216:2021 please refer to ICCONS® DesignPro software or contact ICCONS® engineering department **engineering@iccons.com.au** for further information.



Recommended Loads Flooded Holes (Hammer Drilled)

Non - Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	N_{rec}	(kN)	8,57	13,79	19,29	23,36	37,09	50,92	66,14	78,40
	Shear	V_{rec}	(kN)	6,29	9,71	14,29	26,86	42,29	60,57	78,86	96,00
Steel 8.8	Tensile	N_{rec}	(kN)	11,64	14,29	19,29	23,36	37,09	50,92	66,14	78,40
	Shear	V_{rec}	(kN)	8,57	13,14	19,43	36,00	56,00	80,57	105,14	128,00
A4-50	Tensile	N_{rec}	(kN)	4,50	7,21	10,50	19,71	30,72	44,21	57,44	70,18
	Shear	V_{rec}	(kN)	2,71	4,50	6,29	11,71	18,31	26,41	34,51	42,01
A4-70	Tensile	N_{rec}	(kN)	9,93	14,29	19,29	23,36	37,09	50,92	-	-
	Shear	V_{rec}	(kN)	5,93	9,14	13,71	25,21	39,38	56,78	-	-

Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	N_{rec}	(kN)	3,79	5,79	9,14	13,93	23,61	35,01	46,30	54,88
	Shear	V_{rec}	(kN)	6,29	9,71	14,29	26,86	42,29	60,57	78,86	96,00
Steel 8.8	Tensile	N_{rec}	(kN)	3,79	5,79	9,14	13,93	23,61	35,01	46,30	54,88
	Shear	V_{rec}	(kN)	8,57	13,14	19,43	36,00	56,00	80,57	105,14	128,00
A4-50	Tensile	N_{rec}	(kN)	3,79	5,79	9,14	13,93	23,61	35,01	46,30	54,88
	Shear	V_{rec}	(kN)	2,71	4,50	6,29	11,71	18,31	26,41	34,51	42,02
A4-70	Tensile	N_{rec}	(kN)	3,79	5,79	9,14	13,93	23,61	35,01	-	-
	Shear	V_{rec}	(kN)	5,93	9,14	13,71	25,21	39,38	56,78	-	-

Combined tension and shear loading in accordance with AS 5216:2021 please refer to ICCONS® DesignPro software or contact ICCONS® engineering department **engineering@iccons.com.au** for further information.

BIS-HY GEN2

Seismic resistance for a service life of 50 years (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	-	-

Combined tension and shear loading in accordance with AS 5216:2021 please refer to ICCONS® DesignPro software or contact ICCONS® engineering department **engineering@iccons.com.au** for further information.

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 AS 5216:2021 please refer to ICCONS® DesignPro software or contact ICCONS® engineering department **engineering@iccons.com.au** for further information.

TDS 2018.3

BIS-HY GEN2

Seismic resistance for a service life of 100 years (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 (hef,calc), as specified in the 'Installation Dimensions' table.
- Concrete C20/25, fck = 20 N/mm².
- Temperature range I: (max. long/short term temperature +24°C/+40°C).
- Temperature range II: (max. long/short term temperature +50°C/+80°C).
- Shear loads are calculated without the influence of a lever arm.
- αgap = 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 (Hammer Drilled - CAC)

Steel Decisive

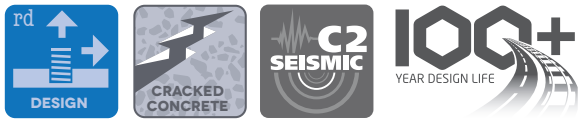
Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	$N_{Rd,eq,C1}$	(kN)	9.38	14.14	22.12	27.27	43.25	59.38	77.13	91.43
	Shear	$V_{Rd,eq,C1}$	(kN)	6.16	9.52	14.00	26.32	41.44	59.36	77.28	94.08
Steel 8.8	Tensile	$N_{Rd,eq,C1}$	(kN)	9.38	14.14	22.12	27.27	43.25	59.38	77.13	91.43
	Shear	$V_{Rd,eq,C1}$	(kN)	8.40	12.88	19.04	35.28	54.88	78.96	103.04	125.44
A4-50	Tensile	$N_{Rd,eq,C1}$	(kN)	6.29	10.14	14.69	27.27	43.00	59.38	77.13	91.43
	Shear	$V_{Rd,eq,C1}$	(kN)	2.65	4.41	6.18	11.47	17.94	25.88	33.82	41.18
A4-70	Tensile	$N_{Rd,eq,C1}$	(kN)	9.38	14.14	22.12	27.27	43.25	59.38	-	-
	Shear	$V_{Rd,eq,C1}$	(kN)	5.83	8.97	13.46	24.68	38.59	55.64	-	-

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

Steel Decisive

Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 5.8	Tensile	$N_{Rd,eq,C1}$	(kN)	6.70	10.10	15.80	19.48	30.89	42.42	55.10	65.30
	Shear	$V_{Rd,eq,C1}$	(kN)	6.16	9.52	14.00	26.32	41.44	59.36	77.28	94.08
Steel 8.8	Tensile	$N_{Rd,eq,C1}$	(kN)	6.70	10.10	15.80	19.48	30.89	42.42	55.10	65.30
	Shear	$V_{Rd,eq,C1}$	(kN)	8.40	12.88	19.04	35.28	54.88	78.96	103.04	125.44
A4-50	Tensile	$N_{Rd,eq,C1}$	(kN)	6.29	10.10	14.69	19.48	30.89	42.42	55.10	65.30
	Shear	$V_{Rd,eq,C1}$	(kN)	2.65	4.41	6.18	11.47	17.94	25.88	33.82	41.18
A4-70	Tensile	$N_{Rd,eq,C1}$	(kN)	6.70	10.10	15.80	19.48	30.89	42.42	-	-
	Shear	$V_{Rd,eq,C1}$	(kN)	5.83	8.97	13.46	24.68	38.59	55.64	-	-

Combined tension and shear loading in accordance with AS 5216:2021 please refer to ICCONS® DesignPro software or contact ICCONS® engineering department **engineering@iccons.com.au** for further information.



Design Resistance Dry/Wet Holes in case of seismic performance category C2 (Hammer Drilled - CAC)

Steel Decisive

Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 8.8	Tensile	$N_{Rd,eq,C2}$	(kN)	-	-	9.95	14.66	23.50	24.28	-	-
	Shear	$V_{Rd,eq,C2}$	(kN)	-	-	14.10	24.92	38.66	35.38	-	-
A4-70	Tensile	$N_{Rd,eq,C2}$	(kN)	-	-	9.95	14.66	23.50	24.28	-	-
	Shear	$V_{Rd,eq,C2}$	(kN)	-	-	11.22	24.68	37.35	35.38	-	-

Design Resistance Flooded Holes in case of seismic performance category C2 (Hammer Drilled)

Steel Decisive

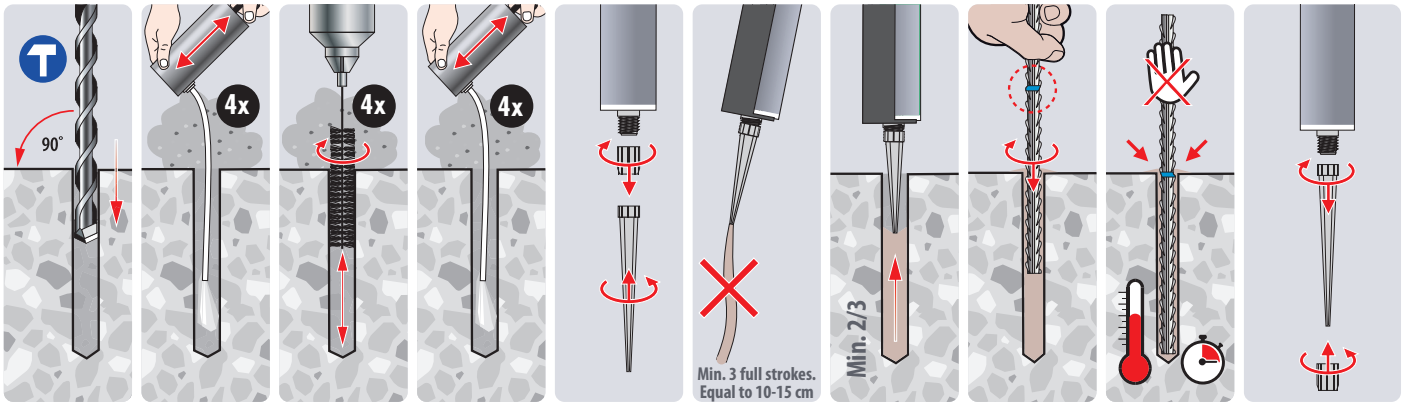
Cracked Concrete		Da		M8	M10	M12	M16	M20	M24	M27	M30
Steel 8.8	Tensile	$N_{Rd,eq,C2}$	(kN)	-	-	7.11	10.47	16.79	17.34	-	-
	Shear	$V_{Rd,eq,C2}$	(kN)	-	-	14.10	24.92	38.66	35.38	-	-
A4-70	Tensile	$N_{Rd,eq,C2}$	(kN)	-	-	7.11	10.47	16.79	17.34	-	-
	Shear	$V_{Rd,eq,C2}$	(kN)	-	-	11.22	24.68	37.35	35.38	-	-

Combined tension and shear loading in accordance with AS 5216:2021 please refer to ICCONS® DesignPro software or contact ICCONS® engineering department **engineering@iccons.com.au** for further information.

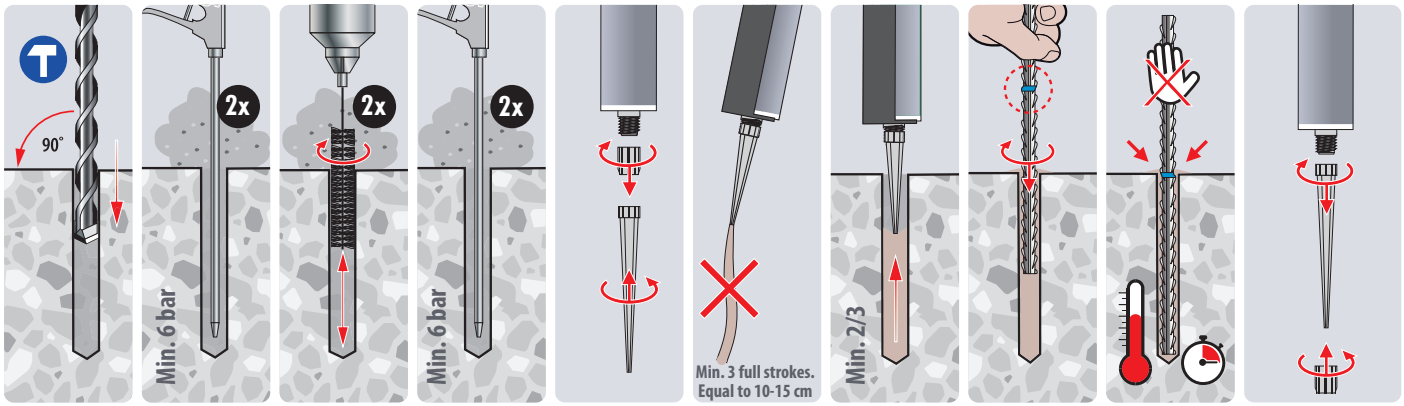
BIS-HY GEN2

Installation Procedures (Hand Pump Cleaning)

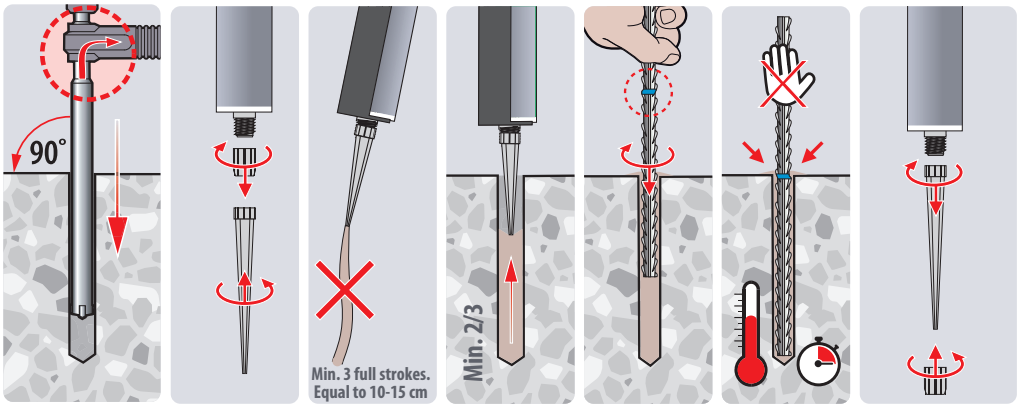
Hand Pump Cleaning for bore hole diameter $d_0 \leq 20$mm, bore hole depth $h_0 \leq 10d_{nom}$ and Non-Cracked Concrete only.



Installation Procedures (Compressed Air Cleaning)



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



DONE AND DUSTLESS

Curing Times[1)]

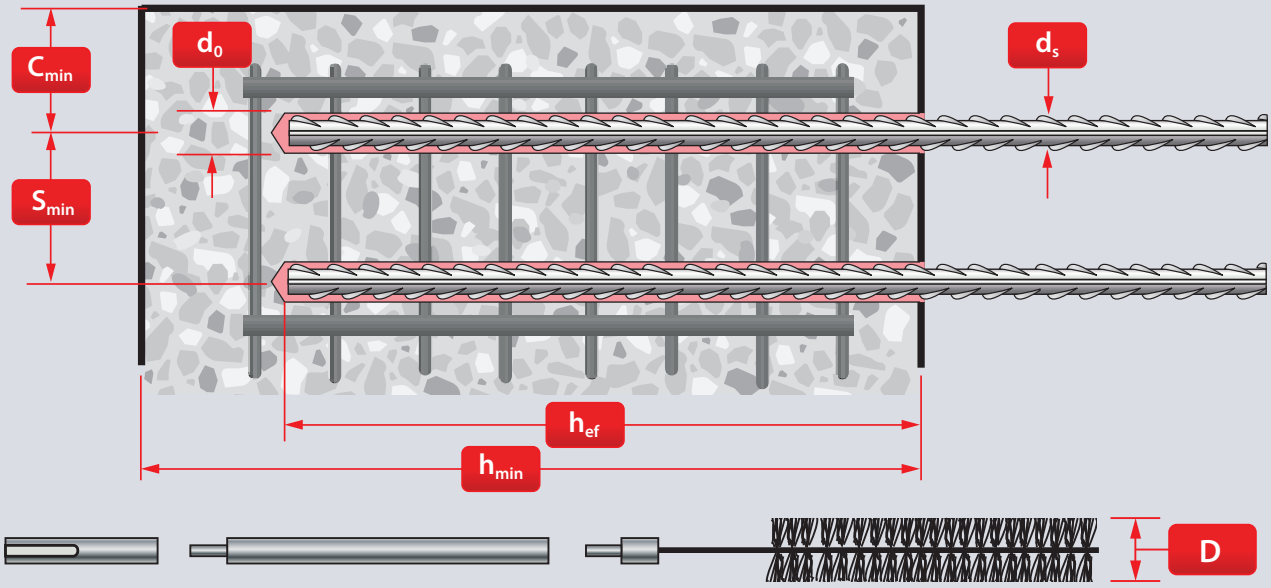
Temperature[2)] °C	-5 to -1	0 to +4	+5 to +9	+10 to + 14	+15 to +19	+20 to +29	+30 to +40
Processing/Working Time	50 min	25 min	15 min	10 min	6 min	3 min	2 min
Curing Time Dry Holes	5 h	3,5 h	2 h	1h	40 min	30 min	30 min
Curing Time Wet Holes	10 h	7 h	4 h	2h	80 min	60 min	60 min

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 5216:2021 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		$h_{ef} + 2d_0$							
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 service life of 50 years (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 and AS 5216:2021 section 6.2.5.2.
- 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 AS 5216:2021 please refer to ICCONS® DesignPro 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 AS 5216:2021 please refer to ICCONS® DesignPro 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.	$N_{rec,min}$	[kN]	10,1	10,9	13,7	15,2	16,8	20,0	22,0	23,4	27,8	33,9
	Tensile Max.	$N_{rec,max}$	[kN]	14,1	22,0	31,7	43,2	56,4	88,2	126,9	137,7	172,8	225,7
	Shear Min.	$V_{rec,min}$	[kN]	6,6	10,3	14,8	20,2	26,3	40,0	44,1	46,9	55,5	67,8
	Shear Max.	$V_{rec,max}$	[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.	$N_{rec,min}$	[kN]	3,9	4,9	7,5	10,2	11,7	14,0	15,4	16,4	19,4	23,7
	Tensile Max.	$N_{rec,max}$	[kN]	10,5	16,5	25,9	38,1	49,8	77,8	112,0	130,9	164,2	214,5
	Shear Min.	$V_{rec,min}$	[kN]	6,6	9,9	14,8	20,2	23,5	28,0	30,8	32,8	38,9	47,5
	Shear Max.	$V_{rec,max}$	[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.	$N_{rec,min}$	[kN]	8,4	9,1	11,4	12,7	14,0	16,7	18,4	19,5	23,1	28,3
	Tensile Max.	$N_{rec,max}$	[kN]	14,1	22,0	31,7	43,2	56,4	88,2	126,9	137,7	172,8	225,7
	Shear Min.	$V_{rec,min}$	[kN]	6,6	10,3	14,8	20,2	26,3	40,0	44,1	46,9	55,5	67,8
	Shear Max.	$V_{rec,max}$	[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.	$N_{rec,min}$	[kN]	3,3	4,1	6,3	8,5	9,8	11,7	12,9	13,7	16,2	19,8
	Tensile Max.	$N_{rec,max}$	[kN]	8,8	13,7	21,5	31,8	41,5	64,8	93,4	109,1	136,8	178,7
	Shear Min.	$V_{rec,min}$	[kN]	6,6	9,9	14,8	20,2	23,5	28,0	30,8	32,8	38,9	47,5
	Shear Max.	$V_{rec,max}$	[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.	$N_{rec,min}$	[kN]	7,2	7,8	9,8	10,9	12,0	14,3	15,7	16,7	19,8	24,2
	Tensile Max.	$N_{rec,max}$	[kN]	14,1	22,0	31,7	43,2	56,4	88,2	126,9	137,7	172,8	225,7
	Shear Min.	$V_{rec,min}$	[kN]	6,6	10,3	14,8	20,2	26,3	40,0	44,1	46,9	55,5	67,8
	Shear Max.	$V_{rec,max}$	[kN]	6,6	10,3	14,8	20,2	26,3	41,1	59,2	64,3	80,6	105,3

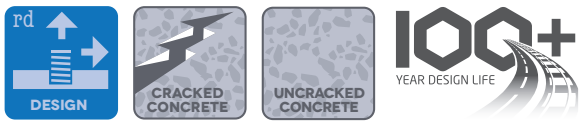
Cracked Concrete		d_{nom}		Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø24	Ø25	Ø28	Ø32
B500B (D500N)	Tensile Min.	$N_{rec,min}$	[kN]	2,8	3,5	5,4	7,3	8,4	10,0	11,0	11,7	13,9	17,0
	Tensile Max.	$N_{rec,max}$	[kN]	7,5	11,8	18,5	27,2	35,6	55,6	80,0	93,5	117,3	153,2
	Shear Min.	$V_{rec,min}$	[kN]	6,6	9,9	14,8	20,2	23,5	28,0	30,8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

BIS-HY GEN2

Static and quasi-static resistance for a service life of 100 years (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, fck = 20 N/mm².
- Temperature range I: (max. long/short term temperature +24°C/+40°C).
- Temperature range II: (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 and AS 5216:2021 section 6.2.5.2.
- 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.



Design Resistance Dry/Wet Holes (Hammer Drilled - CAC)

Steel Decisive

Non-Cracked Concrete		D_{nom}		ø10	ø12	ø16	ø20	ø24	ø28	ø32
B500B	Tensile Min.	$N_{Rd,min}$	(kN)	15,24	19,20	23,47	28,00	30,85	38,87	47,49
	Tensile Max.	$N_{Rd,max}$	(kN)	30,00	43,57	77,86	121,43	174,29	237,86	310,00
	Shear Min.	$V_{Rd,min}$	(kN)	14,00	20,66	36,00	56,00	61,70	77,75	94,99
	Shear Max.	$V_{Rd,max}$	(kN)	14,00	20,66	36,00	56,67	81,33	110,67	144,67

Design Resistance Dry/Wet Holes (Hammer Drilled)

Steel Decisive

Cracked Concrete		D_{nom}		ø10	ø12	ø16	ø20	ø24	ø28	ø32
B500B	Tensile Min.	$N_{Rd,min}$	(kN)	5,66	7,92	12,06	15,08	19,30	26,27	33,25
	Tensile Max.	$N_{Rd,max}$	(kN)	18,83	27,14	48,23	67,02	96,45	131,36	171,57
	Shear Min.	$V_{Rd,min}$	(kN)	11,30	15,83	24,13	30,16	38,60	52,54	66,49
	Shear Max.	$V_{Rd,max}$	(kN)	14,00	20,67	36,00	56,67	81,33	110,67	144,67

Design Resistance Flooded Holes (Hammer Drilled)

Steel Decisive

Non-Cracked Concrete		D_{nom}		ø10	ø12	ø16	ø20	ø24	ø28	ø32
B500B	Tensile Min.	$N_{Rd,min}$	(kN)	10,89	13,70	16,76	20,00	22,03	27,77	33,92
	Tensile Max.	$N_{Rd,max}$	(kN)	30,00	43,60	77,86	121,43	174,29	237,86	310,00
	Shear Min.	$V_{Rd,min}$	(kN)	14,00	20,66	36,00	56,00	61,70	77,75	94,99
	Shear Max.	$V_{Rd,max}$	(kN)	14,00	20,70	36,00	56,67	81,33	110,67	144,67

Design Resistance Flooded Holes (Hammer Drilled)

Steel Decisive

Cracked Concrete		D_{nom}		ø10	ø12	ø16	ø20	ø24	ø28	ø32
B500B	Tensile Min.	$N_{Rd,min}$	(kN)	4,04	5,66	8,62	10,77	13,79	18,77	23,75
	Tensile Max.	$N_{Rd,max}$	(kN)	13,45	19,38	34,45	47,87	68,89	93,83	122,55
	Shear Min.	$V_{Rd,min}$	(kN)	11,30	15,83	24,13	30,16	38,60	52,54	66,49
	Shear Max.	$V_{Rd,max}$	(kN)	14,00	20,67	36,00	56,67	81,33	110,67	144,67

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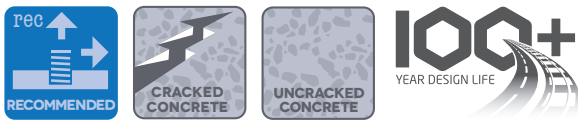


Recommended Loads Dry/Wet Holes (Hammer Drilled)

Non-Cracked Concrete		D_{nom}		ø10	ø12	ø16	ø20	ø24	ø28	ø32
B500B	Tensile Min.	$N_{rec,min}$	(kN)	10,89	13,71	16,76	20,00	22,04	27,76	33,92
	Tensile Max.	$N_{rec,max}$	(kN)	21,43	31,12	55,61	86,74	124,49	169,90	221,43
	Shear Min.	$V_{rec,min}$	(kN)	10,00	14,76	25,71	40,00	44,07	55,54	67,85
	Shear Max.	$V_{rec,max}$	(kN)	10,00	14,76	25,71	40,48	58,09	79,05	103,34

Recommended Loads Dry/Wet Holes (Hammer Drilled)

Cracked Concrete		D_{nom}		ø10	ø12	ø16	ø20	ø24	ø28	ø32
B500B	Tensile Min.	$N_{rec,min}$	(kN)	4.04	5,66	8,61	10,77	13,79	18,76	23,75
	Tensile Max.	$N_{rec,max}$	(kN)	13.45	19,39	34,45	47,87	68,89	93,83	122,55
	Shear Min.	$V_{rec,min}$	(kN)	8.07	11,31	17,24	21,54	27,57	37,53	47,49
	Shear Max.	$V_{rec,max}$	(kN)	10.00	14,76	25,71	40,48	58,09	79,05	103,34

Recommended Loads Flooded Holes (Hammer Drilled)

Non-Cracked Concrete		D_{nom}		ø10	ø12	ø16	ø20	ø24	ø28	ø32
B500B	Tensile Min.	$N_{rec,min}$	(kN)	7,78	9,79	11,97	14,29	15,74	19,84	24,23
	Tensile Max.	$N_{rec,max}$	(kN)	21,43	31,14	55,61	86,74	124,49	169,90	221,43
	Shear Min.	$V_{rec,min}$	(kN)	10,00	14,76	25,71	40,00	44,07	55,54	67,85
	Shear Max.	$V_{rec,max}$	(kN)	10,00	14,79	25,71	40,48	58,09	79,05	103,34

Recommended Loads Flooded Holes (Hammer Drilled)

Cracked Concrete		D_{nom}		ø10	ø12	ø16	ø20	ø24	ø28	ø32
B500B	Tensile Min.	$N_{rec,min}$	(kN)	2,89	4,04	6,16	7,69	9,85	13,41	16,96
	Tensile Max.	$N_{rec,max}$	(kN)	9,61	13,84	24,61	34,19	49,21	67,02	87,54
	Shear Min.	$V_{rec,min}$	(kN)	8,07	11,31	17,24	21,54	27,57	37,53	47,49
	Shear Max.	$V_{rec,max}$	(kN)	10,00	14,76	25,71	40,48	58,09	79,05	103,34

Combined tension and shear loading in accordance with AS 5216:2021 please refer to ICCONS® DesignPro software or contact ICCONS® engineering department **engineering@iccons.com.au** for further information.

BIS-HY GEN2

Seismic resistance for a service life of 50 years (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)

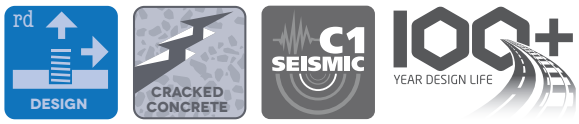
Steel Decisive

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 AS 5216:2021 please refer to ICCONS® DesignPro software or contact ICCONS® engineering department **engineering@iccons.com.au** for further information.

Seismic resistance for a service life of 100 years (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, fck = 20 N/mm².
- Temperature range I: (max. long/short term temperature +24°C/+40°C).
- Temperature range II: (max. long/short term temperature +50°C/+80°C).
- Shear loads are calculated without the influence of a lever arm.
- αgap = 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 (Hammer Drilled)

Steel Decisive

Cracked Concrete		D_{nom}		ø10	ø12	ø16	ø20	ø24	ø28	ø32
B500B	Tensile Min.	$N_{Rd,eq,min}$	(kN)	6,91	10,56	13,96	16,66	18,35	23,13	28,26
	Tensile Max.	$N_{Rd,eq,max}$	(kN)	23,02	36,19	69,66	108,91	156,73	229,88	300,25
	Shear Min.	$V_{Rd,eq,min}$	(kN)	9,80	14,47	25,20	33,32	36,71	46,26	56,52
	Shear Max.	$V_{Rd,eq,max}$	(kN)	9,80	14,47	25,20	39,67	56,93	77,47	101,27

Design Resistance Flooded holes in case of seismic performance category C1 (Hammer Drilled)

Steel Decisive

Cracked Concrete		D_{nom}		ø10	ø12	ø16	ø20	ø24	ø28	ø32
B500B	Tensile Min.	$N_{Rd,eq,min}$	(kN)	4,94	7,54	9,97	11,90	13,11	16,52	20,19
	Tensile Max.	$N_{Rd,eq,max}$	(kN)	16,44	25,85	49,76	77,79	111,95	164,20	214,47
	Shear Min.	$V_{Rd,eq,min}$	(kN)	9,80	14,47	25,20	33,32	36,71	46,26	56,52
	Shear Max.	$V_{Rd,eq,max}$	(kN)	9,80	14,47	25,20	39,67	56,93	77,47	101,27

Combined tension and shear loading in accordance with AS 5216:2021 please refer to ICCONS® DesignPro 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

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	■	

BIS-HY GEN2

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WHY TO USE ICCONS® DESIGN PRO

- ✔ Fast software download and its FREE!
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- ✔ Interactive 3D model display for clear anchor and baseplate layout including rotation functionality
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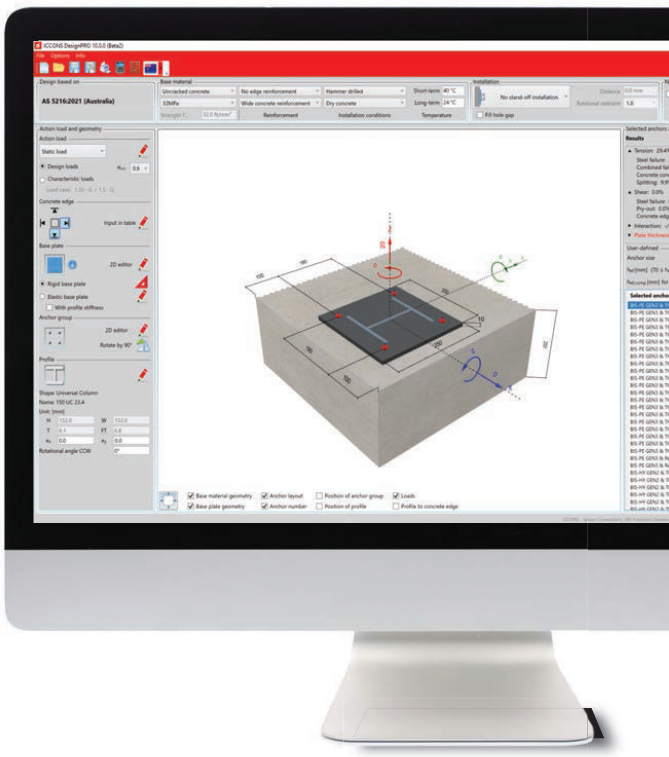

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Know ICONX

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ICCONS® DesignPRO is the next generation in anchoring design software for engineers, designers and specifiers looking for fastening solutions complying with AS 5216:2021. ICCONS® DesignPRO is available for FREE DOWNLOAD using the following link www.iccons.com.au/software/design-pro
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NOTES:

NOTES:

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