



工程指示 / 要求簡箋 ENGINEER INSTRUCTIONS(E.I.)

工程指示編號:	EI- 8172	修改版本:	-
	HK- 1470		
工程編號:	J 856	工程名稱:	天榮站
收件人:	生統/Maggie	發件人:	Iris
工程項目:	T1 T-Bolt HBC-C-N 8.8-M16x80mm	日期:	09/08/2024

<input checked="" type="checkbox"/> 原合約工程包	<input type="checkbox"/> 原合約工程加 / 減脹 QT-	<input type="checkbox"/> 新工程報價 QT-
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信件批核號碼/圖紙參考編號:	批核模具圖紙編號:
客戶指示附件:	管理內部批簽署:

<input type="checkbox"/> 初步鋁料 B.M.	<input type="checkbox"/> 加工拆圖, 然後生產	<input type="checkbox"/> 尺寸表
<input type="checkbox"/> 正式鋁料 B.M.	<input type="checkbox"/> 技術上資料 / 指示	<input type="checkbox"/> 報價
<input type="checkbox"/> 配件 B.M.	<input type="checkbox"/> 樣辦或貨品說明書	<input type="checkbox"/> 分判合約
<input type="checkbox"/> 其他:		

內容: T1 T-Bolt "HILTI" HBC-C-N 8.8-M16x80mm  需提供證書  數量:320粒  完成上列要求日期: 30/08/2024
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國內

<input type="checkbox"/> 生產技術總監	<input type="checkbox"/> 連附件	<input checked="" type="checkbox"/> 技術部	<input checked="" type="checkbox"/> 連附件	<input type="checkbox"/> 生產部	<input type="checkbox"/> 連附件
<input type="checkbox"/> 採購部	<input type="checkbox"/> 連附件	<input checked="" type="checkbox"/> 生產統籌部	<input checked="" type="checkbox"/> 連附件	<input type="checkbox"/> 報關組	<input type="checkbox"/> 連附件
<input type="checkbox"/> 質檢部	<input type="checkbox"/> 連附件	<input type="checkbox"/> 會計部	<input type="checkbox"/> 連附件	<input type="checkbox"/> 機械設計部	<input type="checkbox"/> 連附件
<input type="checkbox"/> 香港辦	<input type="checkbox"/> 連附件	<input type="checkbox"/> 其他:			

香港

<input type="checkbox"/> 行政部	<input type="checkbox"/> 連附件	<input type="checkbox"/> 會計部	<input type="checkbox"/> 連附件	<input type="checkbox"/> 統籌部	<input type="checkbox"/> 連附件	<input type="checkbox"/> 工程部	<input type="checkbox"/> 連附件
<input checked="" type="checkbox"/> 採購部	<input checked="" type="checkbox"/> 連附件	<input type="checkbox"/> QS部	<input type="checkbox"/> 連附件	<input checked="" type="checkbox"/> 地盤管理	<input checked="" type="checkbox"/> 連附件	<input type="checkbox"/> 維修部	<input type="checkbox"/> 連附件

*發件人簽署: Iris	*組別成員批核簽署:
傳遞編號:	項目經理簽署:

# GENERAL NOTES FOR TOWER CURTAIN WALL (TOWER 1,2,3) (3/F-R/F; OMIT: 4/F,13/F,14/F,24/F,34/F,44/F)

## 1. DESIGN CODES :

- a) BUILDING (CONSTRUCTION) REGULATIONS, HONG KONG.
- b) CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL 2011, HONG KONG.
- c) CODE OF PRACTICE FOR THE STRUCTURAL USE OF CONCRETE 2013, HONG KONG.
- d) CODE OF PRACTICE ON WIND EFFECTS IN HONG KONG 2004.
- e) CODE OF PRACTICE FOR DEAD AND IMPOSED LOADS 2011.
- f) BS 8118 - THE STRUCTURAL USE OF ALUMINIUM, PART 1 - 1991. (WIND LOAD FACTOR COMPLY TO PNPAP APP-53)
- g) CODE OF PRACTICE FOR STRUCTURAL USE OF GLASS 2018.
- h) STRUCTURAL DESIGN FOR STAINLESS STEEL, THE STEEL CONSTRUCTION INSTITUTE PUBLICATION P291 (PUBLISHED 2002).

## 2. DESIGN LOADS :

- a) WIND LOAD (TOPOGRAPHIC FACTOR  $S_p = 1$ ) :  
 HEIGHT ABOVE GROUND LEVEL = 151.8 - 5.91 = 145.89m  
 BASIC WIND LOAD: 3.05 KPa (BELOW 150m) FOR TOWER  
 DESIGN WIND LOAD ( $C_p = +1.0/-1.4$ ): 3.05 x ( $C_p = +1.0/-1.4$ ) = +3.05/-4.27 KPa (FOR CURTAIN WALL)  
 DESIGN WIND LOAD ( $C_p = -2.2$ ): 3.05 x ( $C_p = -2.2$ ) = -6.71 KPa (FOR ALUM FEATURE)
- b) IMPOSED LOAD : (FOR PROTECTIVE BARRIER)  
 HORIZONTAL IMPOSED LOAD SHALL BE COMPLIED WITH CODE OF PRACTICE FOR DEAD & IMPOSED LOADS 2011.  
 FOR AREAS (WHERE CONGREGATION OF PEOPLE IS NOT EXPECTED) :  
 i) LIVE LOAD TO BE APPLIED AT A HEIGHT OF 1.1m ABOVE F.F.L. = 0.75 kN/m  
 ii) UNIFORMLY DISTRIBUTED LOAD TO BE APPLIED ON THE INFILL BETWEEN FLOOR AND TOP RAIL = 1.0 kPa  
 iii) CONCENTRATED LOAD TO BE APPLIED ON ANY PART OF THE INFILL BETWEEN FLOOR AND TOP RAIL = 0.5 kN
- c) DEAD LOAD :  
 GLASS WEIGHT: 26 kN/m<sup>2</sup>  
 STEEL WEIGHT: 77 kN/m<sup>2</sup>  
 ALUMINIUM WEIGHT: 27.2 kN/m<sup>2</sup>

## 3. ALUMINIUM ALLOY :

- a) ALUMINIUM SHEET :  
 ALL ALUMINIUM SHEET TO BE ALLOY 3003-H14 TO ALUMINIUM AND ALUMINIUM ALLOYS - SHEET, STRIP AND PLATE, BS EN 485-2:2008 & ALUMINIUM AND ALUMINIUM ALLOYS CHEMICAL COMPOSITION AND FORM OF WROUGHT PRODUCTS, BS EN 573-3:2009.  
 0.2% PROOF (YIELD) STRENGTH = 125 MPa DENSITY = 27.2kN/m<sup>3</sup>  
 MINIMUM ULTIMATE TENSILE STRESS = 145 MPa LIMITING BENDING STRENGTH = 125 MPa  
 MODULUS OF ELASTICITY (E) = 70000 MPa LIMITING TENSILE STRENGTH = 135 MPa  
 LIMITING SHEAR STRENGTH = 75 MPa DEFLECTION LIMIT = SPAN/180 OR 20mm
- b) ALUMINIUM EXTRUSION : IN ACCORDANCE WITH DESIGN CODE BS 8118-1:1991, COMPLY TO ALUMINIUM AND ALUMINIUM ALLOYS, EXTRUDED ROD/BAR, TUBE AND PROFILES, BS EN 755-2:2008 & ALUMINIUM AND ALUMINIUM ALLOYS CHEMICAL COMPOSITION AND FORM OF WROUGHT PRODUCTS, BS EN 573-3:2009.  
 MODULUS OF ELASTICITY = 70000 MPa  
 ALLOY NAME: 6063-T5 6063-T6 6061-T6  
 MINIMUM 0.2% PROOF STRENGTH:  $f_{22} = 110 \text{ N/mm}^2$   $f_{22} = 160 \text{ N/mm}^2$   $f_{22} = 240 \text{ N/mm}^2$   
 LIMITING STRESS FOR BENDING AND OVERALL YIELDING:  $P_0 = 110 \text{ N/mm}^2$   $P_0 = 160 \text{ N/mm}^2$   $P_0 = 240 \text{ N/mm}^2$   
 LIMITING STRESS FOR LOCAL CAPACITY OF THE SECTION IN TENSION OR COMPRESSION:  $P_0 = 130 \text{ N/mm}^2$   $P_0 = 175 \text{ N/mm}^2$   $P_0 = 260 \text{ N/mm}^2$   
 LIMITING STRESS IN SHEAR:  $P_v = 65 \text{ N/mm}^2$   $P_v = 95 \text{ N/mm}^2$   $P_v = 145 \text{ N/mm}^2$   
 LIMITING STRESS IN BEARING:  $P_{22} = 130 \text{ N/mm}^2$   $P_{22} = 175 \text{ N/mm}^2$   $P_{22} = 260 \text{ N/mm}^2$

## 4. STRUCTURAL MILD STEEL AND FINISH :

- a) ALL MILD STEEL SHALL BE GRADE S275 (CLASS 1) TO CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL 2011 AND COMPLY TO BS EN 10025:2004 (FOR JO) & BS EN 10210-1:2006 (FOR JOH).
- b) SURFACE TREATMENT SHALL BE HOT-DIP GALVANIZED COMPLIED WITH BS EN 10461:2009.  
 FOR THICKNESS "T" : 1.516mm (GRADE S275)  
 YOUNG'S MODULUS 205,000 N/mm<sup>2</sup>  
 DENSITY 77 kN/m<sup>3</sup>  
 YIELD STRENGTH 275 N/mm<sup>2</sup>  
 TENSILE STRENGTH 275 N/mm<sup>2</sup>  
 BENDING STRENGTH 275 N/mm<sup>2</sup>  
 SHEAR STRENGTH 158.8 N/mm<sup>2</sup>

BS EN ISO 1461:2009 (TABLE 3) COATING THICKNESS (MIN):	STEEL THICKNESS (T)	AVERAGE COATING THICKNESS
T > 6mm	85 μm	85 μm
3mm < T <= 6mm	70 μm	70 μm
1.5mm < T <= 3mm	55 μm	55 μm
T < 1.5mm	45 μm	45 μm

## 8. FASTENERS

ALL FASTENERS, SCREWS, BOLTS & NUTS SHALL BE STAINLESS STEEL GRADE A4-70 COMPLYING WITH BS EN ISO 3506:2009.

MINIMUM YIELD STRENGTH, $Y_{sb}$	= 450 MPa
ULTIMATE TENSILE STRENGTH, $U_{sb}$	= 700 MPa
SHEAR STRENGTH, $P_{sb}$	= 311 MPa
TENSILE STRENGTH, $P_{tb}$	= 450 MPa
BEARING STRENGTH, $P_{bb}$	= 828 MPa

UNLESS OTHERWISE SPECIFIED, ALL SCREWS SHALL BE M5 AT 300 C/C GRADE A4-70 STAINLESS STEEL COMPLIED WITH BS EN ISO 3506:2009.

## 9. FIRE STOP AND THERMAL INSULATION:

- 9.1) THERMAL INSULATION: "CSR" 110Kg/m<sup>3</sup> ROCKWOOL FIBRETES-620 (KNOWN AS "ROCKWOOL CURTAINROCK 80 PLUS 110kg/m<sup>3</sup>")
- 9.2) FIRE STOP: "CSR" FIRE SEAL FS60 (KNOWN AS ROCKWOOL ROCKSAFE 60kg/m<sup>3</sup>) SHALL BE 135mm THK., DENSITY=60kg/m<sup>3</sup> (BD REF: BD-FS-011) FOR FIRE RATING OF 2HRS
- 9.3) SMOKE SEAL: "MIDI ALUMINIUM FABRICATOR LTD" SMOKE SEAL, SHALL BE COMPLY WITH FIRE CODE CLAUSE C10.2

## 10. ANCHOR BOLT (FOR ALUM. CAPPING & GLASS CLADDING ONLY)

- a) ALL DRILL-IN ANCHOR BOLTS SHALL BE HILTI HST3-R AS SHOWN IN THE DRAWINGS AND SHALL BE DESIGNED
- b) THE INSTALLATION OF DRILL-IN ANCHOR BOLTS SHALL BE STRICTLY IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION & RECOMMENDATION.
- c) COVER-METER SHOULD BE APPLIED TO PREVENT ANCHOR BOLTS HIT THE EXISTING REINFORCEMENT BARS.

### FOR CRACKED CONCRETE TABLE:

ANCHOR TYPE	MINIMUM SPACING (mm)	MINIMUM EDGE DISTANCE (mm)	EFFECTIVE ANCHORAGE LENGTH (mm) TO SOUND CONCRETE	RECOMMENDED LOAD (kN) FOR CRACKED CONCRETE INFLUENCING FACTOR FOR GRADE 800 CONCRETE = 1.55		TENSION TEST LOAD (kN)	BO REF. NO.	MINIMUM BASE MATERIAL THICKNESS (mm)
				TENSION	SHEAR			
HILTI HST3-R M8	35 (50)	40 (50)	47	2.8x1.55 = 4.34	5.2x1.55 = 8.06	6.57	BD-AF151	100
HILTI HST3-R M10	40 (55)	45 (60)	60	5.1x1.55 = 7.78	8.4x1.55 = 13.02	11.83	BD-AF149	120
HILTI HST3-R M16	65	65	85	8.4x1.55 = 14.97	21.2x1.55 = 32.86	21.69	BD-AF148	140

## 11. ALUMINIUM STUD BY DRAWN ARC STUD WELD

ALUMINIUM STUD SHALL BE M6 GRADE 5754 AND DESIGNED TO BS 8118-1:1991.  
 DESIGN AND QUALITY ASSURANCE OF DRAWN ARC STUD WELD SHALL COMPLY WITH BS EN ISO 14555:2017.  
 ALUMINIUM STUD TYPE SHALL BE THREADED STUD (PT) AND COMPLY WITH BS EN ISO 13918:2018.  
 MINIMUM 0.2% PROOF STRENGTH:  $f_{22} = 60 \text{ N/mm}^2$

## 12. CAST-IN CHANNEL (BD Ref: BD-AF132 & BD-AF134)

- a) ALL CAST-IN CHANNEL USED TO BE "HILTI" HAC-50, HAC-60 & HAC-70 CHANNEL TO CRACKED CONCRETE
- b) THE INSTALLATION OF CHANNEL FIXING SHALL STRICTLY IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION AND LIMITATION INCLUDING COVER EDGE DISTANCE ANCHOR SPACING ETC.
- c) USED TO BE HBC-C-8-B-B-16x60mm LONG WHICH COMPLY WITH BS 3692-1967 (FOR TYPICAL)
- d) 2 NOS. OF M16 GRADE 8.8 PT-BOLT SPACING REFER TO EMBED DETAIL (DWG. NO. BD-10W-ED01)
- e) BOTH 350mm, 450mm LENGTH OF HILTI CAST-IN CHANNEL WILL BE TESTED OF THE TEST LOAD.
- f) METHOD STATEMENT OF TEST WILL BE SUBMITTED ONE WEEK BEFORE THE COMMENCEMENT OF THE CAST-IN CHANNEL.

CHANNEL TYPE	MIN. EDGE DIM. (a)	MIN. EDGE DIM. (b)	MIN. DEPTH DIM. (c)	RECOMMENDED LOAD FOR CHANNEL (kN)	TEST LOAD (kN) = RECOMMENDED LOAD x 1.5	
HAC-60 W/ 2 NOS. M16 G.M.S.	75mm	150mm	148mm	TENSION : 32.7	SHEAR : 17.4	TENSION : 49.05
HAC-70 W/ 2 NOS. M16 G.M.S.	75mm	150mm	175mm	TENSION : 41.7	SHEAR : 22.8	TENSION : 62.55

## 13. G.M.S. CAST-IN EMBED:

- a) CAST-IN EMBED BAR SHALL BE GRADE 500B TO COMPLIED WITH CS2-2012. SPECIFIED CHARACTERISTIC STRENGTH = 500 N/mm<sup>2</sup> (EMBED TYPE: EM03)
- b) ALL CAST-IN PLATE SHALL BE GRADE S275 (CLASS 1) TO CODE OF PRACTICE FOR STRUCTURE USE OF STEEL 2011 AND COMPLY TO BS EN 10025:2004 (FOR JO) & BS EN 10210-1:2006 (FOR JOH). YIELD STRENGTH = 275 N/mm<sup>2</sup>
- c) SURFACE TREATMENT SHALL BE HOT-DIP GALVANIZED COMPLIED WITH BS EN ISO 1461:2009. (MIN. THICKNESS = 85 MICRONS)
- d) CAST-IN EMBED STEEL ROD (FOR EM09) SHALL BE GRADE S275 JO TO BE COMPLIED WITH BS EN 10025:2004.

## 14. ISOLATION FOR METALS

APPLIED A LAYER OF BITUMINOUS PAINT (COMPLY WITH BS 3416:1991) FOR PROTECTION AGAINST BI-METALLIC CORROSION FOR BARE ALUMINIUM/STEEL CONTACTED SURFACE & STEEL/CONCRETE INTERFACE.  
 PLASTIC ISOLATION TYPE (COMPLY WITH BS PD 6484: 1979) TO BE PROVIDED BETWEEN CONTACT SURFACE OF ALUMINIUM AND STEEL TO PREVENT DIRECT CONTACT BETWEEN DISSIMILAR METALS.

## 15. OPENABLE WINDOW

ALL OPENABLE WINDOW OF CURTAIN WALL ARE FOR INFORMATION ONLY AND SHOULD BE APPROVED UNDER CLOSED AND LOCKED CONDITION.

## 15a. CONCRETE GRADE (FOR INFORMATION ONLY)

ALL R.C. STRUCTURE SHOWN IN THE SUBMISSION SHALL BE GRADE C45 COMPLY WITH CODE OF PRACTICE FOR THE STRUCTURAL USE OF CONCRETE, 2013 HONG KONG.

## 16. GBP APPROVAL DATE: 19/08/2023

SUPERSTRUCTURE APPROVAL DATE: 11/07/2018

## 17. TOLERANCE OF FIXING BRACKET OF CURTAIN WALL SHALL BE

± 15mm [ HORIZONTAL DIRECTION : (PARALLEL / PERPENDICULAR TO CURTAIN WALL & VERTICAL DIRECTION ) ]

## 18. STAINLESS STEEL :

ALL STAINLESS STEEL TO BE GRADE 304 (1.4301) AND GRADE 316 (1.4401) TO BS EN 10088-1  
 YOUNG'S MODULUS 200,000 N/mm<sup>2</sup>  
 DENSITY 79 kN/m<sup>3</sup>  
 MIN. 0.2% PROOF STRENGTH 210 N/mm<sup>2</sup> (FOR GRADE 304)  
 220 N/mm<sup>2</sup> (FOR GRADE 316)  
 ULTIMATE TENSILE STRENGTH 520 N/mm<sup>2</sup>

## 19. HOLDING DOWN BOLT (FOR EMBED ONLY):

ALL HOLDING DOWN BOLT SHOULD BE GRADE 8.8 BOLT COMPLY WITH BS 4190-2 AND DESIGN TO CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL 2011

GRADE 8.8	
SHEAR STRENGTH	375 N/mm <sup>2</sup>
TENSILE STRENGTH	560 N/mm <sup>2</sup>
BEARING STRENGTH	1000 N/mm <sup>2</sup>

## 5. GLASS :

- a) GLASS USED TO BE :  
 (1) IGU GLASS (8mm THICK HEAT STRENGTHENED GLASS + 12mm THICK AIR + 10mm THICK TEMPERED GLASS)  
 (2) IGU GLASS (8mm THICK HEAT STRENGTHENED GLASS + 12mm THICK AIR + 12mm THICK TEMPERED GLASS)  
 (3) 10mm THICK HEAT STRENGTHENED GLASS  
 (4) 12mm THICK HEAT STRENGTHENED GLASS  
 (5) 12mm THICK TEMPERED GLASS

- b) DESIGN OF GLASS SHALL COMPLY TO BS 6262:2005.  
 -ALLOWABLE BENDING STRENGTH (TEMPERED) = 80 N/mm<sup>2</sup> (FOR CLEAR GLASS)  
 -ALLOWABLE BENDING STRENGTH (HEAT STRENGTHENED) = 40 N/mm<sup>2</sup> (FOR CLEAR GLASS)  
 -YOUNG'S MODULUS = 70,000 N/mm<sup>2</sup>

- c) GLASS MATERIALS SHALL COMPLY TO BS 952:1995.

- d) RESIDUAL SURFACE COMPRESSION FOR TEMPERED GLASS TO BE NOT LESS THAN 69 MPa.

- e) RESIDUAL SURFACE COMPRESSION FOR HEAT STRENGTHENED GLASS TO BETWEEN 24 AND 52 MPa.

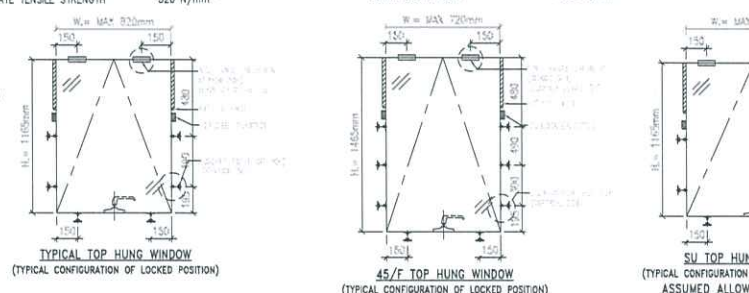
- f) FULLY TEMPERED GLASS TO BE 100% HEAT SOAK TESTED IN ACCORDANCE WITH BS EN 14179-1:2016 & COMPLIED WITH PNPAP APP-37.

## 6. WELDING FOR STRUCTURAL STEEL:

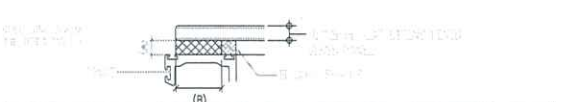
- a) ALL WELDING SHALL BE COMPLIED WITH BS EN 1011-1:2009.
- b) ALL SITE WELDS SHALL BE RECEIVED 2 COATS OF ZINC CHROMATE PRIMER TO BS 4552:2003.
- c) ALL WELDING SHALL BE CARRIED OUT BY QUALIFIED WELDER, WELDER SHALL BE TESTED TO BS EN ISO 9606-1:2013.
- d) ELECTRODES USED IN WELD SHALL BE COMPLIED WITH BS EN ISO 2560:2009 OR BS EN ISO 17932:2008
- e) UNLESS OTHERWISE INDICATED, ALL WELDS SHALL BE 5mm THICK FILLET WELD ALL AROUND.
- f) DESIGN WELD STRENGTH:  $p_w = 220 \text{ MPa}$ .

## 7. SILICONE SEALANT, GASKET & SETTING BLOCK :

- a) "DOW CORNING(R) - DC971" SILICON SEALANT TO BE USED AS WEATHER GLAZING SEALANT.
- b) "DOW CORNING(R) STRUCTURAL SILICONE SEALANT TYPE 983" TO BE USED AS STRUCTURAL GLAZING SEALANT. (BD. REF. NO.: BD-SS001)  
 ALLOWABLE DESIGN STRENGTH = 138kPa FOR WIND LOAD CHECKING ONLY.
- c) ALL GASKET USED SHALL BE DENSE EXTRUDED SILICONE WITH A SHORE HARDNESS OF 65±5.
- d) SETTING BLOCKS SHALL BE DENSE EXTRUDED SILICONE WITH A SHORE HARDNESS OF 85±5 DUROMETER SHORE A, A MIN. LENGTH OF 100 mm & A MIN. WIDTH CORRESPONDING TO THE GLASS THICKNESS & LOCATED AT GLASS QUARTER POINTS.



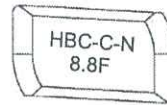
GLASS TYPE	MIN. THICKNESS (mm)	MIN. AIR SPACE (mm)	MIN. TEMPERED GLASS THICKNESS (mm)	MIN. HEAT STRENGTHENED GLASS THICKNESS (mm)
(1)	10	12	10	10
(2)	12	12	12	12



GLASS TYPE	MIN. THICKNESS (mm)	MIN. AIR SPACE (mm)	MIN. TEMPERED GLASS THICKNESS (mm)	MIN. HEAT STRENGTHENED GLASS THICKNESS (mm)
(1)	10	12	10	10
(2)	12	12	12	12
(3)	14	12	14	14
(4)	16	12	16	16
(5)	18	12	18	18
(6)	20	12	20	20
(7)	22	12	22	22
(8)	24	12	24	24
(9)	26	12	26	26
(10)	28	12	28	28
(11)	30	12	30	30
(12)	32	12	32	32
(13)	34	12	34	34
(14)	36	12	36	36
(15)	38	12	38	38
(16)	40	12	40	40
(17)	42	12	42	42
(18)	44	12	44	44
(19)	46	12	46	46
(20)	48	12	48	48
(21)	50	12	50	50
(22)	52	12	52	52
(23)	54	12	54	54
(24)	56	12	56	56
(25)	58	12	58	58
(26)	60	12	60	60
(27)	62	12	62	62
(28)	64	12	64	64
(29)	66	12	66	66
(30)	68	12	68	68
(31)	70	12	70	70
(32)	72	12	72	72
(33)	74	12	74	74
(34)	76	12	76	76
(35)	78	12	78	78
(36)	80	12	80	80
(37)	82	12	82	82
(38)	84	12	84	84
(39)	86	12	86	86
(40)	88	12	88	88
(41)	90	12	90	90
(42)	92	12	92	92
(43)	94	12	94	94
(44)	96	12	96	96
(45)	98	12	98	98
(46)	100	12	100	100
(47)	102	12	102	102
(48)	104	12	104	104
(49)	106	12	106	106
(50)	108	12	108	108
(51)	110	12	110	110
(52)	112	12	112	112
(53)	114	12	114	114
(54)	116	12	116	116
(55)	118	12	118	118
(56)	120	12	120	120
(57)	122	12	122	122
(58)	124	12	124	124
(59)	126	12	126	126
(60)	128	12	128	128
(61)	130	12	130	130
(62)	132	12	132	132
(63)	134	12	134	134
(64)	136	12	136	136</

## Hot-dip galvanized notched bolt HBC-C-N

Technical data	
Environmental conditions	Indoor, damp conditions
Tooth configuration	Notched
Material, corrosion	Steel, sherardized / hot-dip galvanized



(e.g. HBC-C-N 8.8F)

Order Now



Ordering designation	Anchor size	Useable thread length *	Bolt length, l	Sales pack quantity	Item number
HBC-C-N M16x60 8.8F	M16	35.2 mm	60 mm	1 pc	2237140 <sup>1)</sup>
HBC-C-N M16x80 8.8F	M16	55.2 mm	80 mm	25 pc	2237141
HBC-C-N M16x100 8.8F	M16	75.2 mm	100 mm	25 pc	2237142 <sup>1)</sup>
HBC-C-N M16x150 8.8F	M16	125.2 mm	150 mm	25 pc	2237143 <sup>1)</sup>
HBC-C-N M20x60 8.8F	M20	25.5 mm	60 mm	50 pc	2237144 <sup>1)</sup>
HBC-C-N M20x80 8.8F	M20	45.5 mm	80 mm	50 pc	2237145 <sup>1)</sup>
HBC-C-N M20x100 8.8F	M20	65.5 mm	100 mm	50 pc	2237146 <sup>1)</sup>
HBC-C-N M20x150 8.8F	M20	115.5 mm	150 mm	25 pc	2237137 <sup>1)</sup>

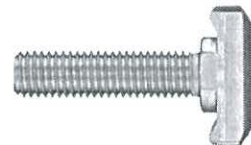
<sup>1)</sup> This is a non-stock item. For detailed lead time information please contact your Hilti representative.

\* Usable thread length measures the bolt length protruded after inserted the HBC-C into the HAC channel

Please visit Hilti website for the latest item numbers and related products

## Stainless steel HBC-C

Technical data	
Environmental conditions	Outdoor
Material composition	Steel, A4-50
Material, corrosion	Steel, stainless



(e.g. HBC-C 50R)

Order Now



Ordering designation	Anchor size	Useable thread length*	Bolt length, l	Sales pack quantity	Item number
HBC-C M12x50 50R	M12	25.2 mm	50 mm	25 pc	2095685 <sup>1)</sup>
HBC-C M12x80 50R	M12	55.2 mm	80 mm	25 pc	2095686 <sup>1)</sup>
HBC-C M16x80 50R	M16	50.7 mm	80 mm	25 pc	2095690 <sup>1)</sup>

<sup>1)</sup> This is a non-stock item. For detailed lead time information please contact your Hilti representative.

\* Usable thread length measures the bolt length protruded after inserted the HBC-C into the HAC channel

Please visit Hilti website for the latest item numbers and related products