PBI BRACE-IT ANCHOR AS 3850.1

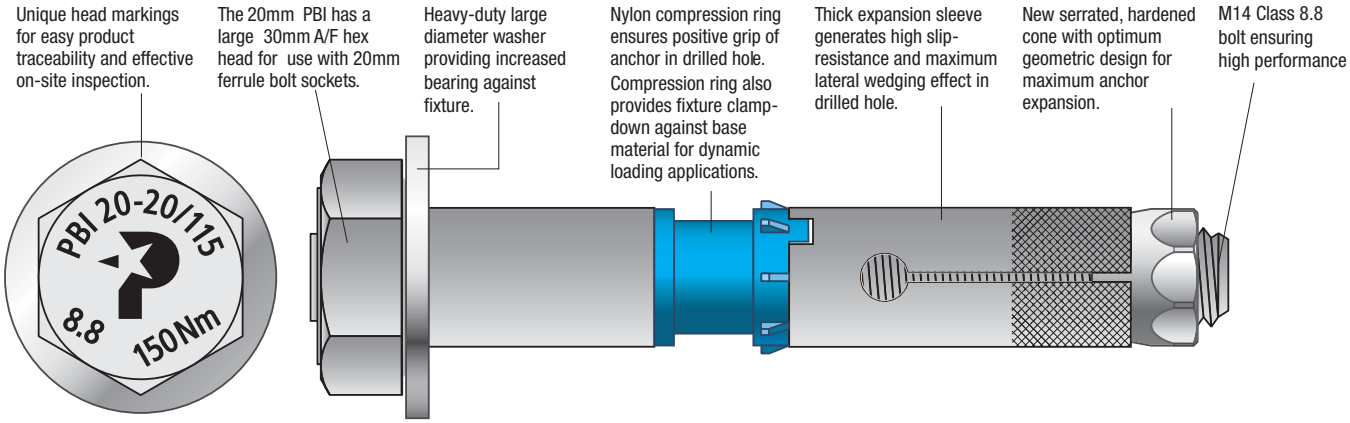
TEMPORARY BRACE ANCHOR

PBI20-20/115-LH – Brace-It Anchor

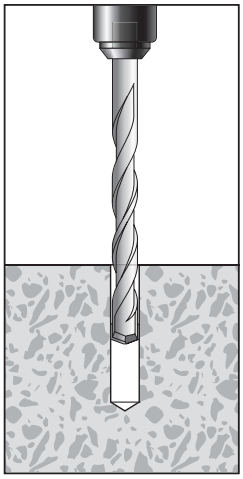
The PBI20-20/115-LH anchor is a high performance load torque-controlled, thick sleeve expansion anchor, which is designed for use in bracing shoes (foot plates) of braces for bracing of prefabricated concrete elements during construction. The high performance PBI20-20/115-LH is a high load/low slip expansion anchor which has been independently tested by Swinburne University of Technology in accordance with section A9-"Additional Testing for Post-Installed Brace Inserts" of AS3850.1:2015 (Prefabricated concrete elements Part 1: General requirements).

The anchor has been independently tested for the following criteria of AS3850.1:2015

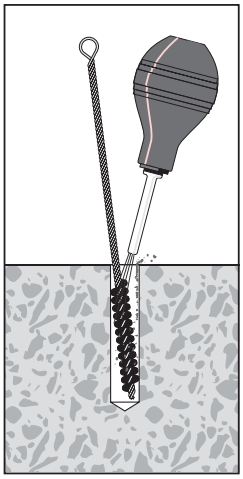
- Static Tension
- Static Shear
- Cyclic Tension
- Installation torque testing and integrity assessment



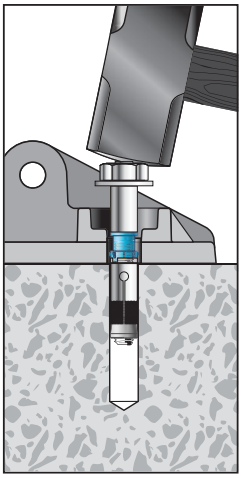
INSTALLATION PROCEDURE



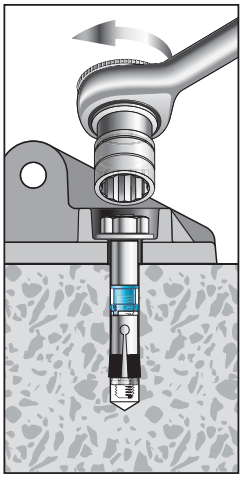
Using the proper diameter bit, drill a hole into the base material to the depth required. This must be no more than 80% of the base material thickness.



Blow and brush the hole clean of dust and other material. Position the fixture. Do not expand the anchor prior to installation.



Drive the anchor through the fixture into the anchor hole until the bolt-head is firmly seated against the fixture. Be sure the anchor is driven to the required embedment depth.



Tighten the anchor by applying the guide installation torque from the finger-tight position. This information is on the head of the PBI anchor.

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TEMPORARY BRACE ANCHOR

PBI Brace-It Anchor (post-installed brace insert) for fixing brace shoe (foot plate)

INDEPENDENTLY TESTED IN ACCORDANCE WITH AS3850.1:2015

SKU	Description	Drill Ø (mm)	Depth (mm)	Fixture Thickness (mm)	Installation Torque (Nm)	Socket Size (mm)	Box QTY	Carton QTY
1PBI14115	M14 x 115mm Brace-It Anchor	20	95	20	150	30	10	40

PBI20-20/115-LH INDEPENDENT COMPLIANCE DATA IN 20MPA CONCRETE

Type of Load	Drill Ø (mm)	Fixture Clearance Hole Ø (mm)	Fixture Thickness (mm)	Min. Concrete Thickness (mm)	Total Depth of Embedment (mm)	Tightening Torque (Nm)	Characteristic Ultimate Strength (kN)	Working Load Limit (WLL) (kN)
Tension	20	22 - 24	20	150	95	150	38.4	17.1
Shear	20	22 - 24	20	150	95	150	-	34.0

MATERIAL SPECIFICATIONS

Anchor Components	Carbon Steel
Bolt	Class 8.8 (UTS = 800 MPa min. / Y.S. = 640MPa min.)
Washer	C1040 (heat treated)
Expansion Sleeve	C1022
Extension Sleeve	C1022
Expander Cone	C1040 (heat treated) + Proprietary coating
Compression ring	Nylon
Plating	Zinc plated in accordance with AS 1789-3003
Head style	30mm A/F Heavy Hex Head
Socket size	30mm A/F

M14 / Ø 20 - PBI Specification Data	
Sizes	20 x 115mm (Bolt M14 Class 8.8)
Drill diameter	20mm
Concrete drill hole depth	110mm
Total Embedment depth	95mm
Effective depth	80mm
Anchor spacing	240mm (nominal)
Anchor edge distance	300mm (Cl 2.5.4, AS3850.2:2015)
Fixture thickness	20mm (nominal)
Fixture clearance hole	22 to 24mm
Tightening torque	150Nm

COMBINED TENSION AND SHEAR (AS PER A9.6.3 AS3850.1:2015)

Where PBI20-20/115-LH anchor is subjected to combined tension and shear the anchor shall conform to the interaction relationship included in the following equation:

$$[N_s / (R_{u,N} / F)]^{1.5} + [V_s / (R_{u,V} / F)]^{1.5} \leq 1.0$$

$R_{u,N}$ = Characteristic ultimate tensile strength of PBI20-20/115-LH = 38.4kN
$R_{u,V}$ = Characteristic ultimate shear strength of PBI20-20/115-LH = 76.4kN
N_s = Tension component of the unfactored applied load
V_s = Shear component of the unfactored applied load
F = Factor of Safety = 2.25 (According to Table 2.1 of AS3850.1:2015
NOTE: If the applied load, or a component of it, is a wind load calculated from AS/NZS 1170.2 or AS/NZS 1170.0, it should be divided by 1.5 before being placed in this formula (see Clause 2.5.6 of AS3850.2:2015).

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