

Helifix HeliBar & HeliBond

Building Product Information Sheet

Helifix HeliBar (HBR) is a helical stainless steel reinforcing bar used for strengthening and stabilising masonry in both new build and remedial situations. In new build applications, HeliBar is bonded into the bed-joint during construction. In remedial situations, HeliBar is bonded into clearance holes or cut slots at pre-determined levels in the masonry using HeliBond (HLB) thixotropic cementitious grout.

HeliBar is available in lengths up to 7 metres. The length used will vary depending upon the application. Longer lengths are used to form masonry beams that secure large areas of masonry and distribute structural loads. In shorter lengths, HeliBar is used in combination with HeliBond to stitch cracked masonry or installed into clearance holes to help stabilise solid masonry. HeliBar cut into shorter (up to 1m) lengths and installed into clearance holes with HeliBond grout are known as CemTie.

HeliBar is manufactured from Grade 304 or (as standard) Grade 316 stainless steel and in nominal (measured fin edge to fin edge) 6mm, 8mm and 10mm diameters. A smaller 4.5mm version is available in Grade 304 stainless steel only. Bars are physically marked, with the word 'Helifix' and steel grade printed at regular intervals along their length. HeliBar exhibits high tensile strength (10kN tensile strength and 0.2% proof stress of 840MPa) and referenced by product code and size (e.g. HBR06).

Composition

- HeliBar is manufactured from stainless wire steel.
- HeliBond is a water-based, fine cementitious, non-shrink, non-gassing thixotropic grout. It contains Portland cement and quartz sand. It is supplied in a pail with separate wet and dry components to be mixed using hand-held tooling prior to use.

Supporting documentation

- Product details and recommended installation procedures for a variety of indicative situations are presented in supporting technical documentation. Refer to HBO1 HeliBar, HBG01 HeliBond, and CT01 CemTie product information sheets, and indicative installation details marked ANZ-CS01 to ANZ-RW04, available from: <https://helifix.co.nz/downloads>
- Product details and data sheets for the safe handling of HeliBond grout is presented in supporting technical documentation. Refer to HeliBond Liquid Component and HeliBond Powder Component available from: <https://www.helifix.co.nz/downloads/safety-datasheets>

Product Identifier

- HLB, HBR_ _

Manufacturer and Importer Details:

Place of Manufacture:	Overseas
Manufacturer:	Leviat Limited, The Mille, 1000 Great West Road, Brentford, TW8 9DW, United Kingdom
Manufacturer Email:	sales.helifix.uk @leviat.com
Importer Name:	Leviat New Zealand Limited
Importer Address:	246D James Fletcher Drive, Otahuhu, Auckland, 2024
Importer Website:	www.leviat.com/en-nz
Importer Email:	info.nz@leviat.com
Importer Phone:	+64 9 276 2236
Importer NZBN:	9429031339056

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Relevant Building Code clauses:

- Clause B1 Structure — B1.3.1, B1.3.2, B1.3.3, B1.3.4
- Clause B2 Durability — B2.3.1 (a)
- Clause E2 External Moisture — E2.3.2
- Clause F2 Hazardous Building Materials — F2.3.1

Contributions to Compliance:

Clause B1 Structure

- HeliBar used as recommended in new build construction complies with the performance requirements of AS/NZS2699.2: 2000 for connectors and accessories built into masonry.
- HeliBond is a water-based grout comprised of Portland cement and quartz sand, and exhibits high compressive strength, curing to 45MPa (28 days at 20°C).
- Depending on the exact application, HeliBar and HeliBond used in combination in remedial applications will contribute to compliance subject to the specific engineering design of a suitably qualified engineer and their assessment of use in an existing structure as an alternative solution. However, in some general repair and maintenance applications (e.g. some crack stitching applications in non-structural masonry veneer), building consent may not be required as HeliBond cementitious grout and HeliBar stainless steel bed-joint reinforcement may be comparable to the cementitious and steel bed-joint materials present in the existing structure. Clarification from the responsible council or authority should be sought wherever there is doubt.

Clause B2 Durability

- **B2.3.1 (a).** HeliBar manufactured from Grade 316 stainless steel complies with AS/NZS2699.2: 2000, Clause 2.4.4 with a durability classification of R4 assessed against Table 2 and will meet the provisions of B2.3.1(a) of not less than 50 years subject to intended use and placement within the masonry.
- The durability of connections formed using HeliBar and HeliBond in existing building structures and materials will require the site-specific assessment of the designer.

Clause E2 External Moisture

- **E2.3.2.** HeliBar and HeliBond installed in accordance with intended use will typically sit within the mortar bed of the masonry veneer of a building. Refer to acceptable solution E2/AS1.

Clause F2 Hazardous Building Materials

- **F2.3.1.** HeliBar and HeliBond meet the performance requirements under Clause F2.3.1. Refer to the material safety data sheets listed in the supporting documentation for the safe handling of HeliBond cementitious grout.

Limitations on the use of the building product:

- HeliBar and HeliBond should only be used as intended to strengthen and stabilise new and existing masonry.

Design requirements to support appropriate use:

- In new build applications, HeliBar shall be embedded fully within the mortar bed of the masonry veneer, with minimum side cover of 15mm and in accordance with NZS 4210.
- HeliBar, installed into the bed-joint of new or existing masonry, should be used in a size that ensures the requirements of AS/NZS 2699.2, Clause 2.6 are satisfied and the overall height of the HeliBar does not exceed 70% of the design bed thickness. Normally, HeliBar in the 6mm diameter will be used when installed into a bed-joint or cut slot with a nominal 10mm height. Note, in accordance with NZS 4210, Clause 2.6.3.3, the minimum recommended joint thickness for new masonry veneer construction and when using in-joint reinforcement is 10mm.
- HeliBar used in remedial bed-joint applications (e.g. crack stitching) will typically sit approximately 10-15 mm from the surface of the (un-coated) masonry leaf. Depending on the application, site conditions and materials involved, a deeper embedment may be possible or desirable. Guidelines helpful to the preparation of the durability assessment necessary to the installation of HeliBar into masonry bed-joints or as CemTie is provided in NZS 4210, Appendix 2.E.

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Installation requirements:

- HeliBar and HeliBond shall be installed by a competent contractor in accordance with Leviat installation guidelines and the design and guidance of the designer.
- Installation guidelines are available in the supporting technical documentation.

Maintenance requirements:

- Maintenance of the system will not normally be required during the expected life of the system.

Warnings or ban:

- This product is not subject to any warning or ban under section 26 of the Building Act 2004.