

Building Product Information Sheet

Class 1

Product Name:

BIS-HY Gen 2 Hybrid Injection Adhesive

Date of Report:

25 / 09 / 2023

Product Line:

ICCONS Chemselect

Product Description and its intended use:

When it's CODE PLATINUM it's Hybrid Gen 2.

Combining the superior strength of Epoxy with a fast cure Vinylester.

Fire Rating F120 (2 hours) and approved for use in temperatures up to 160°C.

ICCONS BIS-HY is a rapid cure, styrene free, non-sag, extreme performance Hybrid Concrete Injection Adhesive Anchor.

BIS-HY is suitable for Threaded Rod and Rebar in cracked and non-cracked concrete and Australia's first rapid cure with Seismic C2 approval for threaded rod.

This revolutionary concrete adhesive injection anchor system lends incredible characteristics to almost all adhesive anchor applications in the professional and DIY spaces

Key technical specifications:

- Product type: Chemical Anchor
- Load rating: Extreme
- Cracked concrete suitable: Yes
- Earthquake Seismic Approval: C1 and C2
- Fire Tested: Yes
- CE Certification: Yes
- Suitable for: Rebar, Threaded stud / Insert
- Working Time (mins) @ 20C (Dry Holes): 3 minutes
- Curing Time (mins) @ 20C (Dry Holes): 30 minutes
- National Code Compliant: AS 5216
- ETA Assessment: Yes
- Dustless drilling suitable
- Green Projects: LEED A+ Approved Low VOC
- Applications: overhead applications, water filled holes.
- 100 Year Design Life

Product Identifier

BIS-HY Gen 2 Hybrid Injection Adhesive

Place of Manufacture:

Overseas

Manufacturer:

ICCONS PTY LTD

Importer:

Sesto Fasteners Limited

Address: 5e Piermark Drive
Rosedale, Auckland

Postcode: 0632

Website: www.sestofasteners.co.nz

Email: orders@sestofasteners.co.nz

Phone: +64 94158564

NZBN: 9429041704103

Relevant Building Code Clauses:

- B1 Structure: Performance clauses B1.1, B1.2, B1.3.1, B1.3.2, B1.3.3, B1.3.4
- B2 Durability: Performance clauses B2.2
- F2 Hazardous Building Materials: Performance clause F2.3.1
- H1 Energy Efficiency: Objective clause H1.1

Statement on how the building product is expected to contribute to compliance:

- B1 Structure: clauses B1.1, B1.2, B1.3.1, B1.3.2, B1.3.3, B1.3.4:
 - ICCONS BIS-HY Gen 2 Hybrid is compliant with the requirements referenced in the National Construction Code (NCC), AS 5216 and European Assessment (ETA) Documents and Guidelines. AS 5216 (Design of post-installed and cast-in fastenings in concrete) outlines the minimum requirements for the selection, design and assessment of cast-in anchor channel and post installed fasteners.
 - ICCONS BIS-HY Gen 2 Hybrid is approved for use in cracked and non-cracked concrete C20/25 to C50/60.
 - Suitable for use with Anchor Rods M8-M30, Rebar \varnothing 8-32 mm and Threaded Sleeves M6-M20.
 - Seismic Action C1: M8-M30, \varnothing 8-32 mm.
 - Seismic Action C2: M12-M24.
 - Suitable for hammer/air drilled holes.
 - Suitable for installation in dry and wet holes, and installation in flooded holes.
 - Suitable for overhead installation.
 - Fire Rating F120 (2 Hours). Assessed for use in temperatures up to 160°C.
 - Extreme strength load performance.
 - Complaint with standard AS/NZS 4020: Potable Water approved.
 - ICCONS BIS-HY Gen 2 Hybrid holds ETA Assessment as a bonded anchor for use in concrete (ETA-19/0131 of 29 November 2021 and ETA-19/0130). Refer to document 'BIS-HY Gen2 Hybrid European Technical Assessment - Seismic Approval' for the performance data, available in the link below. Note, the performances given in Section 3 are only valid if the anchor is used in compliance with the specifications and conditions given in Annex B of the document:
https://sestofasteners.co.nz/products/bis-hy-gen-2-hybrid-injection-adhesive?_pos=1&_sid=437ea47a1&_ss=r
 - Testing data is available for installation dimensions and design resistance in dry and wet holes across a range of embedment depths and concrete classes. Values vary based on application, rebar size and the conditions of the tests performed. Refer to documents 'BIS-HY Gen2 Post Installed Rebar TDS' and 'BIS-HY Gen2 Threaded Rod and Rebar TDS', as well as the ETA data at 'BIS-HY Gen2 Hybrid European Technical Assessment - Seismic Approval' for the testing data available in the link below:
https://sestofasteners.co.nz/products/bis-hy-gen-2-hybrid-injection-adhesive?_pos=1&_sid=559fcf650&_ss=r
 - Processing time, curing time in dry holes and in wet holes varies based on concrete temperature. Cartridge Temperature must be between +5°C and +40°C. Refer to document 'BIS-HY Gen2 Post Installed Rebar TDS' (page 4) for these values, available in the link above.
 - Combined tension and shear loading data is performed in accordance with New Zealand standard EN 1992-4:2018 (Design of concrete structures, Design of fastenings for use in concrete) and Australian standard AS 5216:2018 (Design of post-installed and cast-in fastenings in concrete). Refer to documents 'BIS-HY Gen2 Post Installed Rebar TDS' and 'BIS-HY Gen2 Threaded Rod and Rebar TDS' for performance data, available in the link above. Refer to ICCONS Designfix software or contact ICCONS engineering department engineering@iccons.com.au for further information.
 - B2 Durability: Performance clauses B2.2
 - ICCONS BIS-HY is a rapid cure, styrene free, nonsag, extreme performance Hybrid Injection Adhesive. BIS-HY is suitable for Threaded Rod and Rebar in cracked and non-cracked concrete and Australia's first rapid cure with Seismic C2 assessment for threaded rod.
 - 100 Year Design Life in accordance with EAD 330499-01-0601 (ETA December 2018: Bonded Fasteners for use in Concrete).
 - BIS-HY is suitable for Threaded Rod and Rebar in cracked and non-cracked concrete and Australia's first rapid cure with Seismic C2 approval for threaded rod.
 - This revolutionary concrete adhesive injection anchor system lends incredible characteristics to almost all adhesive anchor applications in the professional and DIY spaces.
 - ICCONS BIS-HY Gen 2 has been tested for application in a range of base material temperatures. Values vary based on application. Refer to document 'BIS-HY Gen2 Post Installed Rebar TDS' for temperature values for post-installed rebar applications, and document 'BIS-HY Gen2 Threaded Rod and Rebar TDS' for threaded rod and rebar applications, available in the link below:
https://sestofasteners.co.nz/products/bis-hy-gen-2-hybrid-injection-adhesive?_pos=1&_sid=559fcf650&_ss=r
 - ICCONS BIS-HY Gen 2 has been tested for chemical resistance against a range of chemical substances. The data available is applicable to brief periods of chemical contact with full cured adhesive (e.g. temporary contact with adhesive during a spill). Refer to document 'BIS-HY Gen2 Threaded Rod and Rebar TDS' (page 18), available in the link below:
https://sestofasteners.co.nz/products/bis-hy-gen-2-hybrid-injection-adhesive?_pos=1&_sid=f576877e1&_ss=r&variant=37595384119465
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- F2 Hazardous Building Materials: Performance clause F2.3.1

- ICCONS BIS-HY Gen 2 Hybrid is suitable for dustless drilling applications. No hole cleaning is required when used with ICCONS DE / Heller duster expert hollow drill bits. For ETA Assessment for use with ICCONS DE / Heller duster expert hollow drill bits (and class M Vacuum), refer to ICCONS Technical data sheet for further details.
- ICCONS BIS-HY Gen 2 Hybrid has been assessed as a Chemwatch Hazard Alert Code: 2 product (moderate hazardous chemical).
- Refer to the Chemwatch SDS forms available in the link below, for guidelines regarding the relevant use, hazards identification, first aid measures, safe storage, and other hazardous product requirements. The below precautions are for illustrative reference only, refer to the full Chemwatch SDS forms for comprehensive handling information.
- Precautions for prevention of harm: Use only in a well-ventilated area, wear protective gloves, protective clothing, eye protection and face protection, and avoid breathing mist/vapours/spray. Wash all exposed external body areas thoroughly after handling.
- Precautions for response: IF ON SKIN: wash with plenty of water.. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER/doctor/physician/first aider if you feel unwell. If skin irritation or rash occurs: Get medical advice/attention.
- Precautions for storage: Store locked up and in a well ventilated place. Keep container tightly closed.
- Precautions for disposal: Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
- Chemwatch Hazard Alert Safety Data Sheets (ref. 74-2947 and 74-2949) are available for this product (according to WHS Regulations (Hazardous Chemicals) Amendment 202 and ADG Requirements). BIS-HY Gen 2 may cause respiratory, skin and eye irritation in some persons if improperly handled. Good judgment, protective measures and care is required to ensure this product is used safely. Read both SDS documents, and apply all relevant safety requirements in use, storage and handling. Refer to documents 'Chemwatch SDS Form A' and 'Chemwatch SDS Form B' for safe use guidelines and requirements, available in the link below:
https://sestofasteners.co.nz/products/bis-hy-gen-2-hybrid-injection-adhesive?_pos=1&_sid=559fcf650&_ss=r

- H1 Energy Efficiency: Objective clause H1.1

- ICCONS BIS-HY Gen 2 Hybrid Injection Adhesive is A+ LEED tested for low volatile organic compounds for green projects.

Limitations on the use of the building product:

- Performance standard AS 5216:2018 covers post installed fasteners for 'Safety Critical' applications in concrete only. Safety critical applications are where failure may endanger human life, result in collapse or partial collapse of the structure, and/or cause considerable economic loss. All other types of fastening design including seismic design, fire design and stress development of rebar (ref. to AS3600) etc. For applications outside the scope of AS 5216:2018 / SA TS 101:2015 please refer to anchor manufacturers for guidance. Can I use a fastener with an ETA (European Technical Assessment/approval)? Yes, products that carry a current ETA comply with the requirements in AS 5216:2018 / SA TS 101:2015. A suitably qualified design engineer must determine suitability of these fasteners prior to use.

Refer to document 'NCC FAQ' for full information regarding the use of AS 5126:2018 products. Note, AS 5216:2018 is an Australian standard that establishes the minimum requirements for the selection, design and assessment of cast-in anchor channel and post installed fasteners. It does not hold binding legal obligation in the New Zealand market as in the Australian market, but is useful when considering the applicability of NCC compliant products to your application. If you are unsure, consult a suitably qualified design engineer prior to use. Available in the link below:

https://sestofasteners.co.nz/products/bis-hy-gen-2-hybrid-injection-adhesive?_pos=1&_sid=437ea47a1&_ss=r

- ICCONS BIS-HY Gen 2 is a Code 2 (moderate) hazardous product that must be handled, used, stored and disposed of safely. Good judgment, training, protective equipment and care is required. Refer to the documents 'Chemwatch SDS Form A' and 'Chemwatch SDS Form B' for information regarding proper use, required safety procedure and toxicity data, available in the link below:

https://sestofasteners.co.nz/products/bis-hy-gen-2-hybrid-injection-adhesive?_pos=1&_sid=559fcf650&_ss=r

- ICCONS Chemselect products should be stored away from direct sunlight. Chemselect adhesives, foams and sealants & fillers are perishable products. Shelf life, storage conditions and identification on packaging varies based on product. Refer to document 'Adhesive Shelf Life' as well as the information on the product label to determine the product's useful life, available in the link below:

https://sestofasteners.co.nz/products/bis-hy-gen-2-hybrid-injection-adhesive?_pos=1&_sid=559fcf650&_ss=r

- ICCONS BIS-HY Gen 2 Hybrid is not suitable for use with core drilled holes.

- Working times provided (3 minutes) are based on 20°C dry concrete.

- ICCONS / 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.
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Design requirements that would support the use of the building product:

ICCONS BIS-HY Gen 2 Hybrid has been designed for use in the following applications:

- Infrastructure construction (roads, viaducts, sound barriers, crash barriers, harbours, high rise construction, steel construction).
- Production Facilities (installation of cranes, robots, conveyor lines etc).
- Suitable for threaded rod and rebar in cracked and non-cracked concrete.

Use Conditions:

- Installation in cracked and non-cracked concrete C20/25 to C50/60
- For anchor rods M8-M30, rebar $\varnothing 8 - \varnothing 32$ mm and threaded sleeves M6 - M20
- Seismic action C2: M12 - M24
- For hammer/air drilled holes
- Installation in dry, wet and flooded holes
- Overhead installation allowed.

Features that support the use of the product:

- EXTREME Load Performance
- Fast 30 min cure at 20°C dry concrete
- 100 Year Design Life
- Fast cure characteristics save time and money on the job
- ETA approved for cracked concrete
- Fire resistance approval
- Potable water approval
- Seismic C1 and C2 approved
- Low VOC for green projects.

Installation requirements:

- Installation requirements and steps vary based on the application and method used. For installation procedures for post-installed rebar connections, refer to document 'BIS-HY Gen2 Post Installed Rebar TDS'. For installation procedures for threaded rod and rebar applications, refer to document 'BIS-HY Gen2 Threaded Rod and Rebar TDS', available in the link below:

https://sestofasteners.co.nz/products/bis-hy-gen-2-hybrid-injection-adhesive?_pos=1&_sid=7f881986a&_ss=r

- Refer to ETA document (ETA-19/0131) 'BIS-HY Gen2 Hybrid European Technical Assessment - Seismic Approval' for detailed installation requirements, available in the link below:

https://sestofasteners.co.nz/products/bis-hy-gen-2-hybrid-injection-adhesive?_pos=1&_sid=7f881986a&_ss=r

Maintenance requirements:

N/A, no on-going maintenance required.

Is the building product subject to warning or ban under section 26?:

No

