

Hychem™ Void USR

Urea silicate polyurethane foam system

Description

Hychem™ Void USR is a two-component, high expansion, and solvent-free foam system based on isocyanate and sodium silicate. Low in heat development and peak exotherm reaction when compared to a polyurethane based system.

Uses

Hychem™ Void USR is designed for:

- Void filling
- Filling and stabilisation of cavities
- Concrete and strata consolidation

Features & Benefits

- Rapid reaction profile, enabling efficient application where fast foaming, flexibility, and fire performance are required
- Exhibits strong adhesion to damp or wet substrates
- Provides flame-retardant performance
- Suitable for spray-applied installation methods
- Demonstrates good chemical stability under typical service conditions

Product Data

Characteristic	Hychem™ Void USR Part A	Hychem™ Void USR Part B
DESCRIPTION	SODIUM SILICATE	ISOCYANATE
Appearance	Cloudy white liquid	Clear brown liquid
Density (25° C)	1.49 g.cm ³	1.19 g.cm ³
Flash Point	> 200 °C	> 200 °C
Viscosity	400 mPa.s	80 mPa.s

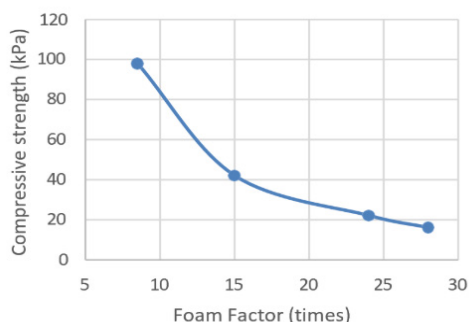
Technical Data

Physical Properties

Typical results are provided when mixed at the recommended mix ratio as stated in the below table.

PERFORMANCE CHARACTERISTICS	RESULTS (For mixed product)
Mixing Ratio	Part A and Part B are to be mixed using the following ratio: By volume 1:1 By weight 1:1.25
Cream time	20 - 30 seconds
Rise time	43 - 51 seconds
Foam Factor	20 - 30 X (Expansion)
Reaction Exotherm	80°C max (Measured in laboratory conditions)

Compressive Strength of Hychem Void USR foam at 10% compression



Note on Compressive Strength: The compressive strength is directly correlated to the foam factor/expansion of the foam. A higher expansion will always result in lower foam density and consequently compressive strength. The data presented in the chart above was measured in standard laboratory conditions. The test foam was prepared by mixing 50mL of part A with 50mL of part B. The properties of the foam, including the compressive strength will differ to lab results because it's influenced by many different variables e.g., volume of injection, heat generation, relative temperature & pressure, and also the type of substrate



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Application Guidelines

Part A and B are supplied ready for use and are to be mixed at a 1:1 ratio by volume using a suitable two-component injection pump fitted with an in-line static mixer. Reaction time and expansion characteristics will vary depending on material temperature, substrate conditions, and the presence of groundwater. For optimal performance, both components should be conditioned to temperatures above 15 °C prior to application. Part A is recommended to be agitated before use.

Effective mixing of Parts A and B during injection is critical. The use of an appropriately sized in-line static mixer in conjunction with the mixing head is required. A minimum static mixer length of approximately 500 mm long is recommended. Containers of both components should be adequately agitated prior to use to ensure homogeneity. For detailed application procedures and project-specific guidance, contact HYCHEM™ Technical Support.

Storage

This product has a storage stability of approximately 12 months. For prolonged storage, it is recommended that the temperature be between 20 – 30 °C.

To prevent ingress of moisture, containers must be kept tightly sealed when not in use. Resins must not be subjected to freezing conditions during transportation and storage. Keep out of direct sunlight.

Store in sealed containers between 20-30°C.

Preferably full containers of material should be used to avoid part drums being contaminated with moist air or water. If contact with moist air or water occurs, the containers should not be resealed. Reaction with water leads to gas evolution, with possible pressure build up. Consult the Safety Data Sheet before use.

Safety

In an emergency, contact 000, the Poisons Information Centre (13 11 26 within Australia) or a doctor for advice. Please refer to the current SDS (Safety Data Sheet) and follow the prescribed safety precautions and handling procedures for the product.

Warranties and Disclaimers

Hychem™ warrants that this product shall conform to the technical specifications published in the product literature. The quality and fitness of the product are dependent upon its proper use and application by the applicator. Hychem's role is limited to the manufacture and supply of the product and its components and does not extend to supervision or control of its application. It is vital that the person applying this product understands its properties and limitations and is appropriately trained and competent in the use of the equipment, methods and materials associated with its application. There are no warranties that extend beyond the description contained herein, except where provided in writing directly by Hychem™ and executed under seal by a company officer.

Technical & Field Support

Technical and field support, where provided, does not constitute supervisory responsibility. Suggestions made by Hychem™, whether verbal or written, may be followed, modified or rejected by the owner, engineer or contractor, as they, and not Hychem™, are responsible for determining and carrying out procedures appropriate to a specific application.

Customer Responsibility

The technical information and application advice contained in this publication are based on the best information available at the time of publication. As the information herein is of a general nature, no assumption can be made as to the suitability of the product for a particular use or application, and no warranty as to its accuracy, reliability or completeness, either express or implied, is given other than those required by Commonwealth or State legislation. The owner, their representative or the contractor is responsible for determining the suitability of the product for its intended use.

