

# SIMSON MSR CA Xtreme

## SILYL MODIFIED POLYMER

#### **SMART ADVANTAGES**

- Multipurpose adhesive & sealant
- Excellent ageing properties
- Free from isocyanate and silicone

The Simson Marine Special Range is a range of products specifically developed and designed for nautical applications.

#### **DESCRIPTION**

Simson MSR Construction Adhesive Xtreme is a 1-component, permanently elastic, moisture curing construction adhesive, based on Silyl Modified Polymer (SMP). This product was developed for bonding and sealing applications in the yacht and boat building industry. MSR Construction Adhesive Xtreme used with the Dual SMP® technology guarantees an increased and controlled cure speed and reliability in the production process and extends the application possibilities.

### **APPLICATIONS**

Bonding and sealings in nautical applications, where adhesion and deformability have to comply to extreme requirements. Typical applications include:

- Bonding push borders.
- Bonding and sealing deck fittings.
- Bonding deck coverings.
- Bonding sheets.
- Bonding and sealing deck/hull connections.
- Bonding deck hatches and portholes.
- As bedding compound.

#### **FEATURES**

- Solvent, Isocyanate, Phthalate, Tin and PVC free
- Excellent UV resistance and ageing properties
- In general good adhesion on many substrates without the use of a primer
- Elastic within the temperature range -30°C to +90°C
- Neutral and odourless and fast curing in depth
- Paint compatible with most industrial paint and lacquer systems, both alkyd resin and dispersion (due to the numerous different types of industrial paint a compatibility test is recommended before use, please consult with the paint supplier).

| Curing method  Specific gravity  [g/ml] ca. 1.4  Skin forming time 20°C/50% R.H.  Curing speed after 24 hrs 20°C/50% R.H.  Shore A hardness  Ca. 45  Volume change  [%] <3  Tensile stress (100%) ISO 37 (dumbbells)  Tensile stress at break ISO 37 (dumbbells)  Elongation at break ISO 37 (dumbbells)  E-Modulus (10%) ISO 37 (dumbbells)  E-Modulus (10%) ISO 37 (dumbbells  Shear stress * ISO 4587  Solvent percentage  [%]   Isocyanate percentage  [%]   Isocyanate percentage  [°C] - 30 to + 90  Application temperature  [°C] +5 to +40  UV- and weather resistance  Colours (standard)  Parkaging  Parkaging  Imin]   ca. 1.4  Moisture  (min]  ca. 1.4  (min]  ca. 60  (mm]  ca. 3  (mm]  ca. 45  (MPa]  ca. 1.2  (MPa]  ca. 2.0  (MPa]  ca. 2.0  (MPa]  ca. 3.0  (MPa]  ca. 3.0  (MPa]  ca. 1.0  (MPa]  ca. 250  (MPa]  ca. 1.0  (MPa]  ca. 250  (MPa]  ca. 250  (MPa]  ca. 250  (MPa]  ca. 3.0  (MPa]  ca. 250  (MPa]  ca. 20  | TECHNICAL DATA             |        |                    |
|--|----------------------------|--------|--------------------|
| Curing method  Curing method  Specific gravity  [g/ml] ca. 1.4  Skin forming time 20°C/50% R.H.  Curing speed after 24 hrs 20°C/50% R.H.  Shore A hardness  Ca. 45  Volume change  [%] ca. 1.2  Tensile stress (100%) 1SO 37 (dumbbells)  Elongation at break 1SO 37 (dumbbells)  Elongation at break 1SO 37 (dumbbells)  E-Modulus (10%) 1SO 37 (dumbbells  Shear stress * 1SO 4587  Solvent percentage  [%] 0  Isocyanate percentage  [%] 0  Temperature resistance  [°C] -30 to +90  Application temperature  [°C] +5 to +40  UV- and weather resistance  Colours (standard)  White, grey, black  | CHARACTERISTIC             | ,      | VALUE              |
| Specific gravity  [g/ml] ca. 1.4  Skin forming time 20°C/50% R.H.  Curing speed after 24 hrs 20°C/50% R.H.  Shore A hardness  Ca. 45  Volume change  [%] ca. 1.2  Tensile stress (100%) ISO 37 (dumbbells)  Tensile stress at break ISO 37 (dumbbells)  Elongation at break ISO 37 (dumbbells)  E-Modulus (10%) ISO 37 (dumbbells)  Fe-Modulus (10%) ISO 37 (dumbbells  Shear stress * ISO 4587  Fermion ca. 1.0  Impa] ca. 1.0  Isocyanate percentage  [%] 0  Isocyanate percentage  [%] 0  Temperature resistance  [°C] -30 to +90  Application temperature  [°C] +5 to +40  UV- and weather resistance  Excellent  Colours (standard)  White, grey, black  300 ml cartridges   | Basic material             |        |                    |
| Skin forming time 20°C/50% R.H.  Curing speed after 24 hrs 20°C/50% R.H.  Shore A hardness  Volume change  [%]  Tensile stress (100%) ISO 37 (dumbbells)  Tensile stress at break ISO 37 (dumbbells)  Elongation at break ISO 37 (dumbbells)  E-Modulus (10%) ISO 37 (dumbbells)  E-Modulus (10%) ISO 37 (dumbbells  Shear stress * ISO 4587  Figo 4587  Solvent percentage  [%]  Temperature resistance  [°C]  Application temperature  [°C]  Excellent  Colours (standard)  Parkaging  Ca. 30  Ca. 60  Ca. 30  Ca. 45  Ca. 45  (MPa]  Ca. 1.2  Ca. 2.0  IMPa]  Ca. 2.0  Ca. 3.0  Ca. 3.0  Ca. 3.0  Ca. 3.0  Ca. 1.0  Ca. 1.0 | Curing method              |        | Moisture           |
| 20°C/50% R.H.  Curing speed after 24 hrs 20°C/50% R.H.  Shore A hardness  Ca. 45  Volume change  [%]  Ca. 3  Tensile stress (100%) ISO 37 (dumbbells)  Tensile stress at break ISO 37 (dumbbells)  Elongation at break ISO 37 (dumbbells)  E-Modulus (10%) ISO 37 (dumbbells)  E-Modulus (10%) ISO 37 (dumbbells  Shear stress * ISO 4587  Solvent percentage  [%]  Ca. 2.0  IMPa]  Ca. 2.0  (MPa]  Ca. 3.0  Ca. 45  Ca. 250  E-Modulus (10%) Ca. 3.0  Ca. 3.0  Ca. 3.0  Ca. 3.0  Ca. 45  Ca. 250  E-Modulus (10%) Ca. 3.0  Ca. 3.0  Ca. 3.0  Ca. 45  Ca. 2.0  | Specific gravity           | [g/ml] | ca. 1.4            |
| 20°C/50% R.H.  Shore A hardness  Ca. 45  Volume change  [%] < 3  Tensile stress (100%) ISO 37 (dumbbells)  Tensile stress at break ISO 37 (dumbbells)  Elongation at break ISO 37 (dumbbells)  E-Modulus (10%) ISO 37 (dumbbells)  E-Modulus (10%) ISO 37 (dumbbells)  F-Modulus (10%) ISO 37 (dumbbells)  Shear stress * ISO 4587  Solvent percentage  [%]  0  Isocyanate percentage  [%]  0  Temperature resistance  [°C]  -30 to +90  Application temperature  [°C]  +5 to + 40  UV- and weather resistance  Excellent  White, grey, black  300 ml cartridges   |                            | [min]  | ca. 60             |
| Volume change  [%] <3  Tensile stress (100%) ISO 37 (dumbbells)  Tensile stress at break ISO 37 (dumbbells)  Elongation at break ISO 37 (dumbbells)  E-Modulus (10%) ISO 37 (dumbbells)  E-Modulus (10%) ISO 37 (dumbbells  Shear stress * ISO 4587  Solvent percentage  [%] Ca. 2.0  IMPa] ca. 3.0  Shear stress * ISO 4587  Solvent percentage  [%] 0  Temperature resistance  [°C] -30 to +90  Application temperature  [°C] +5 to +40  UV- and weather resistance  Colours (standard)  White, grey, black  300 ml cartridges   |                            | [mm]   | ca. 3              |
| Tensile stress (100%) ISO 37 (dumbbells) ISO 37 (dumbbells) IMPa] ISO 37 (dumbbells IMPa] ISO 30 10 (dumbbells IMPa] ISO 30 (dumbbells ISO  | Shore A hardness           |        | ca. 45             |
| ISO 37 (dumbbells)  Tensile stress at break ISO 37 (dumbbells)  Elongation at break ISO 37 (dumbbells)  E-Modulus (10%) ISO 37 (dumbbells  Shear stress * ISO 4587  Folvent percentage  Isocyanate percentage  | Volume change              | [%]    | < 3                |
| ISO 37 (dumbbells)  Elongation at break ISO 37 (dumbbells)  E-Modulus (10%) ISO 37 (dumbbells  Shear stress * ISO 4587  Solvent percentage  [%]  Ca. 3.0  IMPa]  Ca. 3.0  Ca. 1.0  Ca.  |                            | [MPa]  | ca. 1.2            |
| ISO 37 (dumbbells)  E-Modulus (10%) ISO 37 (dumbbells  Shear stress * ISO 4587  Solvent percentage  [%]  Isocyanate percentage  [%]  Temperature resistance  [°C]  Application temperature  [°C]  Loca. 3.0  Ca. 3.0  O  Temperature percentage  [%]  O  Temperature resistance  [°C]  -30 to +90  +5 to +40  UV- and weather resistance  Excellent  White, grey, black  300 ml cartridges   |                            | [MPa]  | ca. 2.0            |
| ISO 37 (dumbbells   IMPa    Ca. 3.0     Shear stress *   IMPa    Ca. 1.0     Solvent percentage   [%]   0     Isocyanate percentage   [%]   0     Temperature resistance   [°C]   -30 to +90     Application temperature   [°C]   +5 to +40     UV- and weather resistance   Excellent     Colours (standard)   White, grey, black     Backgring   300 ml cartridges   | •                          | [%]    | ca. 250            |
| ISO 4587   [MPa]   ca. 1.0     Solvent percentage   [%]   0     Isocyanate percentage   [%]   0     Temperature resistance   [°C]   -30 to +90     Application temperature   [°C]   +5 to +40     UV- and weather resistance   Excellent     Colours (standard)   White, grey, black     Backgring   300 ml cartridges   | • •                        | [MPa]  | ca. 3.0            |
| Isocyanate percentage [%] 0  Temperature resistance [°C] -30 to +90  Application temperature [°C] +5 to +40  UV- and weather resistance Excellent  Colours (standard) White, grey, black  300 ml cartridges  |                            | [MPa]  | ca. 1.0            |
| Temperature resistance [°C] -30 to +90  Application temperature [°C] +5 to +40  UV- and weather resistance Excellent  Colours (standard) White, grey, black  Backgring 300 ml cartridges   | Solvent percentage         | [%]    | 0                  |
| Application temperature [°C] +5 to +40  UV- and weather resistance Excellent  Colours (standard) White, grey, black  Backgring 300 ml cartridges   | Isocyanate percentage      | [%]    | 0                  |
| UV- and weather resistance Excellent  Colours (standard) White, grey, black  Backgring 300 ml cartridges   | Temperature resistance     | [°C]   | - 30 to + 90       |
| Colours (standard)  White, grey, black  300 ml cartridges  | Application temperature    | [°C]   | + 5 to + 40        |
| Packaging 300 ml cartridges  | UV- and weather resistance |        | Excellent          |
| Packaging  | Colours (standard)         |        | White, grey, black |
|  | Packaging                  |        | 9                  |

<sup>\*</sup> Al-Al: adhesive thickness 2 mm, test speed 50 mm/min.

<sup>\*\*</sup> Type C, test speed 500 mm/min.

#### **ADHESION**

In general, MSR CA Xtreme adheres well without primer on clean, dry, dust and grease free substrates. Due to the wide variety of substrates available Bostik recommends adhesion testing prior to use (please contact your local representative for more information)

No adhesion on untreated polyethylene, polypropylene and Teflon

In instances where, due to great thermal or physical loads and especially under wet conditions where high adhesion demands are required, the use of Simson Prep CS or Prep M is recommended. Prep CS and Prep M degrease and prepare the surface of the substrate in one-step.

On plain, untreated wooden surfaces and other porous substrates, Prep P is recommended.

For more details on Prep CS and Prep M consult the specific Technical Data Sheets.

For other substrates and additional information, consult Bostik.

#### **METHOD OF USE**

Simson MSR CA Xtreme can easily be extruded with a hand or air pressure gun at temperatures between +5°C and +35°C.

In bonding applications, the substrates need to be assembled within 60 minutes (at 23°C/50% R.H.) of applying MSR CA Xtreme. In general, a minimum adhesive thickness of 2 mm is recommended

Simson MSR CA Xtreme should be tooled or smoothed within 60 minutes (at 23°C/50% R.H.) using a spatula or putty knife, occasionally moistened with a soap solution (avoid soaps containing limonene as these can discolour the sealant). Avoid soap solution penetrating between joint sides and adhesive, as this will cause loss of adhesion.

Cleaning tools or removing uncured residue of MSR CA Xtreme can be done with a clean colourless cloth, wetted with Simson Liquid 1. It is recommended to check for possible attack of the substrate by Liquid 1 before use.

#### **STORAGE STABILITY**

MSR CA Xtreme can be stored for up to 12 months in cartridges and sausages, in original, unopened containers in a dry place at temperatures between +5°C and +30°C.

#### **FURTHER INFORMATION**

The following publications are available on request:

- Material Safety Data Sheets (MSDS)

The information given and recommendations made herein are based on Bostik's research only and are not guaranteed to be accurate. The performance of the product, its shelf life, and application characteristics will depend on many variables, including the kind of materials to which the product will be applied, the environment in which the product is stored or applied, and the equipment used for application. Any change in any of these variables can affect the product's performance. It is the buyer's obligation, prior to using the product, to test the suitability of the product for an intended use under the conditions that will exist at the time of the intended use. Bostik does not warrant the product's suitability for any particular application. The product is sold pursuant to Bostik's Terms and Conditions of Sale that accompanies the product at the time of sale. Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute permission, inducement, or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

#### **SMART SUPPORT**

Please contact your local representative

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