

**ONE-PART SiMP LOW MODULUS CONSTRUCTION SEALANT**



**DESCRIPTION**

SiMP®-Seal 20 is a one-component, gun-grade, non-sag SiMP - Silyl Modified Polymer construction sealant. It cures under the influence of atmospheric moisture to form a high-performance compound with permanent elasticity and high resistance to ageing and weathering. Solvent- and isocyanate-free.

**RECOMMENDED FOR**

Typical applications are:

- ▶ Sealing expansion and construction joints in vertical and horizontal applications
- ▶ Joints in precast elements
- ▶ External walling and cladding joints.
- ▶ Weatherproofing of joints between brickwork, block-work, masonry, wood, concrete, metal frames.
- ▶ Joints in walls, floors, balconies, around window or door frames
- ▶ Bridge and balcony parapets.
- ▶ Metal roof and gutter sealing

**ADVANTAGES**

- ▶ Environmentally friendly – Free of isocyanates and solvents
- ▶ No Hazard symbol required
- ▶ No bubble formation – Odorless
- ▶ Bonds and seals at the at the same time
- ▶ Permanently elastic; Accommodates joint movement of  $\pm 25\%$
- ▶ Easy to gun with excellent tooling consistency
- ▶ Exceptional thixotropy, non-sagging, short cut-off string
- ▶ Excellent primerless adhesion on all typical construction and industrial materials
- ▶ Non-staining on concrete and porous materials
- ▶ Excellent resistance to ageing and weathering
- ▶ Over-paintable with many water and solvent based paints (preliminary tests recommended)

**TECHNICAL CHARACTERISTICS**

Characteristics	Test Result	Test Method
<i>Appearance</i>	Non-sag thixotropic paste	
<i>Color</i>	Grey, white, black. Special colors on request	
<i>Chemical nature</i>	SiMP Silyl-Modified Polymer	
<i>Curing mechanism</i>	Moisture-curing	
<i>Curing through volume</i>	~ 2,1 mm	At 23 °C (73,4 °F) and RH 50%
<i>Shore A hardness</i>	~ 18	DIN 53505
<i>Density</i>	~ 1,50 g/cm <sup>3</sup> (93,64 lb/ft <sup>3</sup> )	At 23 °C (73,4 °F) and RH 50%
<i>Tack-free time</i>	~ 100 min	At 23 °C (73,4 °F) and RH 50%
<i>Elastic modulus at 100%</i>	~ 0,4 N/mm <sup>2</sup>	ISO 37 DIN 53504
<i>Tensile strength</i>	~ 1,0 N/mm <sup>2</sup>	ISO 37 DIN 53504
<i>Elongation at break</i>	~ 500%	ISO 37 DIN 53504
<i>Joint Movement Capability</i>	$\pm 25\%$ of joint width	EN 15651/1; ISO 11600
<i>Application temperature</i>	5 to 40 °C (41 to 104 °F)	
<i>Temperature resistance</i>	-40 to 100 °C (-40 to 212 °F) with brief points at 120 (248 °F)	

**Note:** All data are average values obtained under laboratory conditions. Impractical use, temperature, humidity and absorption of the substrate may influence the above given values.

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### DIRECTIONS FOR USE

**Surface Preparation:** Surfaces must be clean, dry, free of water, oil, grease or rust and of sound quality. Remove all loose particles or residues with a jet of compressed air, sandpaper or hard brush. Glass, metal and other non-porous surfaces must be free of any coatings and wiped clean with solvent (indicatively, use of U-CLEANER ACTIVATOR with fabric). Pre-test substrates for adhesion. Cleaners and/or primers may be required to achieve optimal adhesion. The substrates must be prepared in accordance with the PENETRON HELLAS S.A. instructions. Contact PENETRON HELLAS S.A. for further recommendations and guidance regarding adhesion on specific surfaces. Pre-cast panels using form-release agents other than polyethylene film must be sandblasted or mechanically abraded and dust free.

**Application:** Screw on the plastic nozzle and cut it at an angle according to the desired bead thickness and profile. Fit the cartridge into a manual or pneumatic air operated gun (provided with telescopic piston) and extrude the SiMP®SEAL 20 carefully, preventing air entrapment. Recommended application temperatures: 15°-25°C (59 – 77 °F). For easier use or cold weather application we recommend the material to be stored at approximately 25°C (77 °F) prior to use. In order to guarantee free movement of the sealant in joints, it is imperative that the sealant does not adhere to the bottom of the joint, therefore for correct joint caulking, a closed-cell polyethylene bead (joint backing rod) PENETRON® BACKING ROD of suitable diameter is to be placed at the proper depth. Apply appropriate primer, if needed, to joint sides and observe the waiting time to avoid that any trapped solvent can form bubbles in the uncured sealant, due to rising temperatures. Firmly extrude SiMP®SEAL 20 and apply in the joint, making sure that it is in full contact with the sides of the joint and with the backing rod at the bottom. Keep the nozzle in the SiMP®SEAL 20, continue on with a steady flow of sealant preceding the nozzle to avoid air entrapment. Avoid overlapping of sealant to eliminate entrapment of air. SiMP®SEAL 20 should be tooled to a smooth finish, ensuring a full contact to the sides and back up material into the joint. This will also contribute in breaking the air bubbles, which may be formed inside the sealant. Masking tape should be used, where sharp exact joint lines or exceptionally neat lines are required. Remove the tape, while the sealant is still soft.

**For adhesive purposes:** Apply SiMP® SEAL 20 in spots or bead on the prepared surfaces then firmly press the parts which have to be bonded together.

**Finishing indications and limitations:** Tooling and finishing must be carried out within the tack-free time of the sealant. SiMP® SEAL 20 can be over-painted. The paint must be tested for compatibility with SiMP® SEAL 20 by carrying out preliminary trials. Attention must be observed with the use of alcohol or alkyd-resin since they may interfere with the curing process of the sealant and reduce the drying time of the paint itself. It should be understood that the hardness and film thickness of the paint may impair the elasticity of the sealant and lead to cracking of the paint

film. Avoid exposure to high levels of chlorine (avoid sealing joints in chlorinated swimming pools). Avoid contact with alcohol and other solvent cleaners during cure. When applying SiMP® SEAL 20, avoid air-entrapment. Since system is moisture-cured, permit sufficient exposure to air. Bonded elements may require additional holding or support during curing period.

**Coverage** 6 linear meters of 1 x 1 cm joint per 600 mL unipack seals linear meters of 1 x 1 cm joint per 290 mL cartridge seals.

### SPECIAL CONSIDERATIONS

SiMP® SEAL 20 presents long term resistance to fresh water, seawater, limewater, caustic solutions and cleaning agents. Short term resistance to Petrol, grease and mineral oil. Not resistant to organic acids, concentrated mineral acids or solvents.

Do not use SiMP® SEAL 20 on bituminous substrates, natural rubber, EPDM rubber or on building materials which might bleed oils, plasticizers or solvents which could attack the sealant.

This information is offered for general guidance only. Advice on specific applications will be given on request.

Once opened, packs should be used up within a relatively short time.

Clean tools with acetone or alcohol immediately after use.

Cured material can only be removed mechanically.

Contact PENETRON HELLAS S.A. for additional information, regarding your project.

### PACKAGING

SiMP® SEAL 20 can be purchased in unipacks of 600 mL (37 in<sup>3</sup>) (20 pieces per box).

### STORAGE / SHELF LIFE

SiMP® SEAL 20 can be stored for 12 months in its original packaging (unopened container) at 10°C - 25°C (50 °F - 77 °F) in a cool, dry place. The storage temperature should not exceed 25°C (77 °F) for extended periods of time. Keep away from wet areas, direct sunlight and heat sources.

### SAFE HANDLING INFORMATION

Avoid skin contact by using latex, rubber or polyethylene gloves. Avoid skin and eye contact. If in eye, flush immediately with lots of water and seek medical advice. If skin contact occurs, remove immediately and wash with soap and water. KEEP OUT OF REACH OF CHILDREN. For further information please refer to Safety Data Sheet. PENETRON HELLAS S.A. has recently updated Safety Data Sheet on the safe use of PENETRON® products. Each Safety Data Sheet contains health and safety

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information for the protection of your employees and your customers.

### WARRANTY - DISCLAIMER

PENETRON HELLAS S.A. warrants that its products are manufactured under certified ISO Standard procedures, are of excellent quality and shall be free from material defects and contain all components in their proper proportion. Should any of the products be proven defective, the liability to PENETRON HELLAS S.A. shall be limited to replacement of the material proven to be defective, since the standard application procedures have been met and the suitability of the product for the particular application have been proven. PENETRON HELLAS S.A. makes no warranty as to merchantability of fitness for a particular purpose. User, after contacting the distributor of the product, shall determine the suitability of the product for his intended use and assume all risks and liability in connection therewith. While every care has been taken, the information provided in this product's data sheet make no part of any contract. All recommendations, technical data and test data contained in this product's data sheet are based upon the results of control laboratory tests or in actual field tests. However, PENETRON HELLAS S.A. makes no warranty of any kind, concerning this data. In any case, this data is given in good faith based in the PENETRON HELLAS S.A. experience, till the publication of this sheet. Due to variance in storage, handling and applications of the materials, PENETRON HELLAS S.A. accepts no liability for the results obtained. It is suggested that potential users try small applications to determine the suitability of each individual product for their specific requirements. The users should always refer to the most recent edition of the product's data sheet. PENETRON HELLAS S.A. may particularly differentiate its versions of the product's data sheet compared with those of PENETRON INTERNATIONAL LTD or respective PENETRON companies worldwide. These changes are due to text formatting, different application weathering and procedures or different product names and aim at the optimal consumer information.

### CERTIFICATION

#### Certified according to:

EN 15651-1 TYPE F INT-EXT CC

EUROFINS IAC GOLD emission protocol

#### Compliant to:

ISO 11600 Type F Class 20 sub-class HM

LEED iEQc 4.1; SCAQMD Rule 1168; BAAQMD Reg 8 Rule 51

CARB VOC levels regulation



2538

EN 15651-1

NPT srl

Via G.Rossa 2

Loc. Crespellano – 40053 Valsamoggia (BO)

Italy

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SIMP® SEAL 20

One part, methoxy-silane based  
for the application in facade

Type F EXT-INT CC

Conditioning : Method A

Substrate : mortar M1

Pre – treatment with U-Primer 110 (mortar)

Reaction to fire: Class E

Release of chemicals dangerous to the environment and health:

NPD

Water tightness and air tightness

a) Resistance to flow:  $\leq 3$  mm

b) Loss of volume:  $\leq 10\%$

c) Tensile properties at maintained extension after water immersion: Not failure

d) Tensile properties at maintained extension: Not failure

e) Tensile properties at maintained extension at  $-30^{\circ}\text{C}$ : Not failure

f) Tensile properties (secant modulus) at  $23^{\circ}\text{C}$ :  $\leq 0.4$  N/mm<sup>2</sup>

g) Tensile properties (secant modulus) at  $-20^{\circ}\text{C}$ :  $\leq 0.6$  N/mm<sup>2</sup>

h) Tensile properties (secant modulus) at  $-30^{\circ}\text{C}$ :  $\leq 0.9$  N/mm<sup>2</sup>

f) Durability: Pass

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