

ONE-PART SiMP SEMI-ELASTIC ADHESIVE/SEALANT

DESCRIPTION

SiMP®SEAL 55 is a one-part, high modulus, Silyl-Terminated Polymer semi-elastic adhesive/sealant, free of solvent and isocyanates. Once extruded, it cures by reaction to the atmospheric moisture to form a high performance, permanently flexible elastic adhesive.

RECOMMENDED FOR

SiMP®SEAL 55 is a powerful and versatile adhesive sealant for all jobs, involving sealing & bonding, regarding a wide range of materials, including:

- ▶ Metals
- ▶ Untreated or anodised aluminium
- ▶ Wood
- ▶ Sheet steel (galvanised, plated and painted)
- ▶ Brass, copper
- ▶ Concrete and many rigid plastics
- ▶ Glass, GRP

For use in elastic, structural bonding applications in:

- ▶ Industrial sector (assembling of insulated panels; vibration-proof bonding and sealing on components made of steel, aluminium, wood, GRP and other plastic materials and painted surfaces)
- ▶ Automotive, transportation (coach, caravan, refrigerated vehicles, containers)
- ▶ Marine, where a tough flexible rubber joint or powerful elastic adhesive is required.

ADVANTAGES

- ▶ Environmental friendly – Free of isocyanates and solvents
- ▶ No Hazard symbol required
- ▶ Odourless
- ▶ Permanently flexible in temperatures ranging from -40 °F to 212 °F (-40 °C to 100 °C). Short time resistance up to 248 °F (120 °C)
- ▶ No change in volume – No shrinkage
- ▶ No bubble formation
- ▶ Primer-less adhesion on almost every substrate
- ▶ Non-sag consistency - Exceptional thixotropy – load bearing capacity
- ▶ High mechanical/dynamic stress resistance – shock/impact resistant
- ▶ Increase torsional stiffness of final assembly
- ▶ Neutral behavior, does not attack support surface
- ▶ Increase torsional stiffness of final assembly
- ▶ Vibration and sound damping properties
- ▶ Excellent weathering resistance - extremely good colour stability and UV resistance
- ▶ Over-paintable wet on wet with many water or solvent based paints (preliminary tests recommended)
- ▶ Resistant to water, dilute alkalis, cleansing agents, lime water and mould

TECHNICAL CHARACTERISTICS

<i>Type</i>	Thixotropic paste
<i>Color</i>	White, grey, black
<i>Density</i>	Black 101.13 ± 1.25 lbs/ft ³ (1.62 ± 0.02 kg/Lt) Grey 99.88 ± 1.25 lbs/ft ³ (1.60 ± 0.02 kg/Lt) White 100.51 ± 1.25 lbs/ft ³ (1.61 ± 0.02 kg/Lt)
<i>Chemical nature</i>	SiMP – Silyl Terminated Polymer
<i>Curing mechanism</i>	Moisture-curing
<i>Application temperature</i>	41 to 104 °F (5 to 40 °C)
<i>Temperature Resistance</i>	-40 to 212 °F (-40 to 100 °C), with brief points at 248 °F (120 °C)

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Technical data of SiMP®SEAL 55

Characteristics	Test Result	Test Method
<i>Elastic modulus at 100%</i>	≥ 1.5 N/mm ²	ISO 37 DIN 53504
<i>Tensile strength</i>	≥ 2.0 N/mm ²	ISO 37 DIN 53504
<i>Elongation</i>	≥ 250 %	ISO 37 DIN 53504
<i>Curing through volume</i>	1.5 – 2.0 mm	After 1 day at 73.4 °F (23 °C) and RH 50%
<i>Shore A hardness</i>	50 – 55 N/mm ²	DIN 53505
<i>Tack-free time</i>	15 – 30 min	At 73.4 °F (23 °C) and RH 50%

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

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-cast panels, using form-release agents other than polyethylene film, must be sandblasted or mechanically abraded and dust free. 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 ROMANIA instructions. Contact PENETRON ROMANIA for further recommendations and guidance, regarding adhesion on specific surfaces.

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 55 carefully, preventing air entrapment.

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 55 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 55, 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 55 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.

Finishing indications and limitations: Tooling and finishing must be carried out, within the tack-free time of the sealant. SiMP®SEAL 55 can be over-painted. The paint must be tested for compatibility with SiMP®SEAL 55, 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. When applying SiMP®SEAL 55, avoid air-entrapment. Since system is moisture-cured, permit sufficient exposure to air. Bonded elements may require additional holding or support, during curing period. In applications, such as sealing wood floorings in marine sector, SiMP®SEAL 55 can be sandpapered, after full curing.

Coverage: 6 linear meters of 1x1 cm joint per 600 ml unipack seals or 3 linear meters of 1x1 cm joint per 290 ml cartridge seals.

SPECIAL CONSIDERATIONS

SiMP®SEAL 55 may be over-painted, however, due to the large number of paints and varnishes available, we strongly suggest a compatibility test, before application.

The drying time of alkyd resin based paint may increase.

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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 ROMANIA for further information, regarding your project.

PACKAGING

SiMP®SEAL 55 can be purchased in PE-cartridge 18 in³ (290 ml) (12 cartridges per box) and 37 in³ (600 ml) (20 bags per box).

STORAGE / SHELF LIFE

SiMP®SEAL 55 can be stored for 12 months in its original packing (unopened container) at 41 – 77 °F (5 – 25 °C) in a cool, dry place. The storage temperature should not exceed 77 °F (25 °C) for extended periods of time. Keep away from wet areas, direct sunlight and heat sources.

SAFE HANDLING INFORMATION

Keep out of reach of children. If skin contact occurs, remove immediately and wash with soap and water. 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 information for the protection of your employees and your customers.

WARRANTY – DISCLAIMER

PENETRON ROMANIA 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 ROMANIA 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 ROMANIA 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 makes no warranty of any kind, concerning this data. In any case, this data are given in good faith based in the PENETRON ROMANIA experience, till the publication of this sheet. Due to variance in storage, handling and applications of the materials, PENETRON ROMANIA 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 ROMANIA may particularly differentiate its

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CERTIFICATION



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EN 15651-1
EN 15651-4
NPT srl
Via G.Rossa 2
Loc. Crespellano – 40053 Valsamoggia (BO)
Italy
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SIMP SEAL 55
1 component MS hybrid polymer
for the application in facade and pedestrian walkways
Type F EXT-INT CC / PW EXT-INT CC
Conditioning : Method B
Substrate : anodised aluminium and mortar M1
Pre – treatment with U-Cleaner/Activator (aluminium) and U-Primer 110 (mortar)

- Reaction to fire: Class E
- Release of chemicals dangerous to the environment and health: Evaluated
- Water tightness and air tightness
 - a) Resistance to flow: ≤ 3 mm
 - b) Loss of volume: ≤ 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°C: Not failure
 - f) Tensile properties (secant modulus/elongation at break): NPD
 - g) Tensile properties (secant modulus) at -30°C: NPD
 - h) Adhesion/cohesion properties at maintained extension after 28days water immersion: Not failure
 - Adhesion/cohesion properties at maintained extension after 28days salt water immersion: Not failure
 - j) Tear resistance: Not failure
 - k) Durability: Pass

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