

**MULTIPURPOSE, WIDE SPECTRUM ADHESION  
ONE-PART SiMP ELASTIC ADHESIVE AND SEALANT  
IMO FTPC PART 5, EN 45545-2 & ISEGA FOOD CONTACT CERTIFIED**



**DESCRIPTION**

SiMP® SEAL 55 is a multipurpose one-component, gun-grade, non-sagging SiMP – Silyl Modified Polymer elastic adhesive and sealant. It cures under the influence of atmospheric moisture to form a high performance, permanently flexible elastic adhesive. Solvent- and isocyanate-free.

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

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**

- ▶ SiMP Silyl-Modified Polymer
- ▶ Solvent and isocyanate free
- ▶ Good ageing and weather resistance
- ▶ Outstanding thixotropy, non-sagging, short cut-off string
- ▶ Permanently flexible over a wide range of temperatures
- ▶ No bubble formation
- ▶ Bonds on wet surfaces and underwater
- ▶ Easy to gun with excellent tooling consistency
- ▶ Excellent primerless adhesion on all typical construction and industrial materials and substrates
- ▶ Neutral behaviour, does not attack support surface
- ▶ No Hazard symbol required
- ▶ Over-paintable with many water and solvent based paints (preliminary tests recommended)

**TECHNICAL CHARACTERISTICS**

Characteristics	Test Result	Test Method
Appearance	Non-sag thixotropic paste	
Color	Grey, white, black. Beige and brown on request	
Chemical nature	SiMP Silyl-Modified Polymer	
Curing mechanism	Moisture-curing	
Curing through volume	~ 3,0 mm	At 23 °C (73,4 °F) and RH 50%
Shore A hardness	~ 50	DIN 53505
Density	~ 1,65 g/cm³ (103,01 lb/ft³)	At 23 °C (73,4 °F) and RH 50%
Tack-free time	~ 20 min	At 23 °C (73,4 °F) and RH 50%
Elastic modulus at 100%	~ 1,8 N/mm²	ISO 37 DIN 53504
Tensile strength	~ ,6 N/mm²	ISO 37 DIN 53504
Elongation at break	~ 270%	ISO 37 DIN 53504
Application temperature	5 to 40 °C (41 to 104 °F)	
Temperature resistance	-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-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 HELLAS S.A. instructions. Contact PENETRON HELLAS S.A. 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. 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 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 1 x 1 cm joint per 600 mL unipack seals or 3 linear meters of 1 x 1 cm joint per 290 mL cartridge seals.

## SPECIAL CONSIDERATIONS

SiMP® SEAL 55 can be over-painted. The paint must be tested for compatibility 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.

Do not cure in the presence of curing silicone sealants.

Avoid contact with solvent cleaners during cure.

When applying sealant, avoid air-entrapment.

Since system is moisture-cured, permit sufficient exposure to air.

Bonded elements may require additional holding or support during curing period.

Avoid contact with alcohol and other solvent cleaners during cure.

This information is provided for general guidance only. Contact the Technical Department for instructions on your project.

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

Ensure adequate exposure to air, as the system cures with air moisture.

Clean tools with acetone or alcohol immediately after use. When the adhesive has not yet hardened, it can be removed using paper or a cloth. Once hardened, the product can only be removed mechanically

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

## PACKAGING

SiMP® SEAL 55 can be purchased in cartridge of 290 mL (18 in<sup>3</sup>) (12 pieces per box) and unipacks of 600 mL (37 in<sup>3</sup>) (20 pieces per box).

## STORAGE / SHELF LIFE

SiMP® SEAL 55 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

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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.

### CERTIFICATION

#### Certified according to:

ISEGA EC Regulation 1935/2004 for food contact  
IMO Resolution MSC.307(88)-Fire Testing Procedures Code (2010 FTP Code) – Annex 1 Part 5  
EN 15651-1/3/4 (TYPE F INT-EXT / XS3 / PW EXT-INT)  
EN 45545-2 R1 & R7

#### Compliant to:

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



2538  
EN 15651-1  
EN 15651-3  
EN 15651-4  
NPT srl  
Via G.Rossa 2  
Loc. Crespellano – 40053 Valsamoggia (BO)  
Italy  
14

#### SiMP® SEAL 55

One component methoxy-silanebased sealant  
for the application in façade, sanitary joints and pedestrian walkways  
Type F EXT-INT CC / PW INT-EXT CC / XS3 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:

Refer to SDS

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) Adhesion / cohesion properties at maintained extension after  
28days water immersion: NPD
- g) Adhesion / cohesion properties at maintained extension after  
28days salt water immersion: Not failure
- h) Tear resistance: Not failure
- i) Durability: Pass
- j) Microbiological growth:4

### 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.

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