DESCRIPTION OF PRODUCT

MasterSeal® 440, polyurethane based, single part, UV and weathering resistant elastomeric joint sealant.

EQ Credit 4.1: Adhesive and Sealants (VOC) A+French VOC

FIELDS OF APPLICATION

- Interior and exterior areas for vertical and horizontal applications
- Above grade joints of structures
- Restoration of joints in old and new buildings
- Parapet corners on roof and terraces
- Joints of prefabricated parts
- Moving joints up to 25%
- Connection joints between wood window, doorframes and walls
- Expansion joints between many different construction materials, especially concrete movement
- Between precast wall panels
- Precast rain gutter, roof drain pipes and parapet joints
- Joints and termination details of siding like PVC and aluminum
- To prevent leakage in aluminum, metal, PVC and woodworks and in termination details

FEATURES AND BENEFITS

- Single part, ready and easy to use
- No sagging, thixotropic

TECHNICAL DATA

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MasterSeal® 440</td>
<td>Polyurethane Based</td>
</tr>
<tr>
<td>Density</td>
<td>1.20±0.03 g/ml</td>
</tr>
<tr>
<td>Shore A Hardness</td>
<td>25 - 30</td>
</tr>
<tr>
<td>Elongation at Breaks (ISO 8339)</td>
<td>≥120%</td>
</tr>
<tr>
<td>Elongation at Breaks (ASTM D412)</td>
<td>≥700%</td>
</tr>
<tr>
<td>Tensile Strength (ASTM D412)</td>
<td>1.0 - 1.5 N/mm²</td>
</tr>
<tr>
<td>Elasticity Modulus (ISO 8339) 23°C</td>
<td>0.30 - 0.40 N/mm²</td>
</tr>
<tr>
<td>-20°C</td>
<td>≤0.60 N/mm²</td>
</tr>
<tr>
<td>Application Temperature</td>
<td>+5°C - +40°C</td>
</tr>
<tr>
<td>Service Temperature</td>
<td>-40°C - +70°C</td>
</tr>
<tr>
<td>Cured</td>
<td>24 hours</td>
</tr>
<tr>
<td>7 days</td>
<td>2.5 mm</td>
</tr>
<tr>
<td></td>
<td>Fully Cured</td>
</tr>
<tr>
<td>Paintable</td>
<td>Yes*</td>
</tr>
</tbody>
</table>

Typical values are obtained from the test results of 4x4x16 mortar prism in 23°C and 50% relative humidity conditions. High temperatures shortens the curing and working time, lower temperatures extends the durations.

* Considering the diversity of paint base and quality, compatibility tests should be done before application.
Polyurethane Based, One Component, Low Modulus Joint Sealant

- Conform to BS 6920, suitable for use in drinking water systems
- No surface tackiness after full cure, dirt repellent surface
- Can be applied easily with hand gun
- Paintable *
- Cures with the humidity in the air
- Excellent elongation and elastic recovery properties
- Highly flexible
- No primer required on most substrates
- Weathering resistant and do not change its physical properties during service life
- Enables perfect bonding to concrete, stone, metal, wood, PVC and other construction materials
- Resistant to aggressive chemicals
  * before painting, field mock – up should be done to ensure best end result.

**APPLICATION PROCEDURE**

**Joint Design**

In joints where MasterSeal® 440 will be used, width must be between 10 mm to 35 mm, and depth 8 mm to 15 mm. Please refer to coverage table for joint depths (Approx: depth/ width=1/2). Movements in joints must not be over ± 25% of joint width.

**Preparation of Substrate**

**Concrete and Stone Surfaces**

Joints must be dry, sound and free from dust and other contamination. Remove oil stains and grease from the substrate with the universal thinner. Irregularities on the surface must be repaired with MasterBrace® ADH 1406. Apply masking tape on the outer sides of the joint to prevent staining.

**Metal Surfaces**

Remove rust on the metal substrate. Remove oil stains and grease from the substrate with a suitable oil remover. Do not allow flash rusting of the surface. Fill deep joints with closed cell polyethylene backer rod which must not be damaged during the application. Do not use backer rods containing bitumen or tar.

**Woodworks**

MasterSeal® 440 can be applied on most old and new painted woods. However, old woodworks have to be cleaned from swelled old paints and sandpapered until a smooth surface is obtained.

**APPLICATION**

**Primer Application**

MasterSeal® 440 can be applied on many surfaces without primer. However, under special circumstances during the application, MasterSeal® P 117 (on absorbent surfaces) and MasterSeal® P 107 (on non-absorbent surfaces) can be used as primer.

**Sealant Application**

Place MasterSeal® 440 sausage in a suitable sausage gun. Cut the top of the sausage. Fix the nozzle hoop and cut the nozzle as desired. Apply MasterSeal® 440 starting from the bottom to the top. Avoid air antrapping. Smooth the surface with a suitable jointing tool remove masking tape from the surface. Place MasterSeal® 440 cartridge in a suitable gun. Cut the nozzle as desired.
Apply MasterSeal® 440 starting from the bottom to the top. Avoid air antrapping. Smooth the surface with a suitable jointing tool remove masking tape from the surface.

COVERAGE

Theoretical joint sealing length with MasterSeal® 440 sausage (600 ml):

<table>
<thead>
<tr>
<th>Joint Width</th>
<th>15 mm</th>
<th>20 mm</th>
<th>25 mm</th>
<th>30 mm</th>
<th>35 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joint Depth</td>
<td>8 mm</td>
<td>10 mm</td>
<td>12 mm</td>
<td>15 mm</td>
<td>15 mm</td>
</tr>
<tr>
<td>Joint Length/600 ml</td>
<td>5 m</td>
<td>3 m</td>
<td>2 m</td>
<td>1.3 m</td>
<td>1.1 m</td>
</tr>
</tbody>
</table>

WATCH POINTS

- Do not apply MasterSeal® 440 on substrates below +5°C and above +40°C.
- Application must be protected from rain or water contact within the first 24 hours.
- Working and reaction periods of polyurethane based systems are affected from the ambient, substrate temperatures and the relative humidity in the air. Low temperatures slow down the chemical reaction and increase the working time. High temperatures accelerate the chemical reaction and reduce the working time.
- During the curing of the material, ambient and substrate temperature must be within the intended values.
- Avoid contact with foods.
- Avoid contact with bitumen

CLEANING OF TOOLS

After the application, tools and equipments must be cleaned with solvent. After curing of MasterSeal® 440, it can only be removed by mechanically.

STANDARD COLORS

White
Black
Grey
Aluminium Grey
Limestone
Offwhite
Tan
Redwood
Brown

PACKAGING

310 ml cartridge
(There are 30 pieces in box)
600 ml sausage
(There are 20 pieces in box)

STORAGE

Must be stored in closed package in a cool and dry warehouse protected from freezing and sunlight.

SHELF LIFE

12 months after production date under appropriate storage conditions.
HEALTH AND SAFETY PRECAUTIONS

Work cloth, protective gloves, goggles and masks concordant with Work and Worker Health rules must be used during the application. Due to irritant effects of the non-cured material, avoid contact to skin and eyes during storing and application. If such a contact occurs, it must be washed by soap and plenty of water. Consult a physician urgently if swallowed. Food and drink must be kept outside the application areas. Must be stored away from children. Please look at the Material Safety Data Sheet for detailed information.

DISCLAIMER

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