Fibre-reinforced acid-inhibiting two-component cementitious mortar for repairing and protecting sewerage systems. Can be applied manually or by wet spray.

WHERE TO USE
For the reparation of damaged concrete purification plants of effluent urban waters. Reparation and protection of concrete or masonry sewer trunk lines, collecting wells and water purification plants.

Some application examples
- Repairing concrete subjected to the acid corrosion of sewage.
- Corrosion-inhibiting interior lining of concrete and masonry tanks damaged by the chemical aggression of effluent urban or mixed urban/industrial waters.
- Acid-inhibiting and wear-proof lining of reinforced concrete manifolds used for the transportation of effluent waters that could contain suspended solid particles.
- Acid-inhibiting lining of sewer trunk line vaults.
- Wear-proof lining of sewer trunk line beds that have a heavy transportation of suspended materials.
- Wear-proof layer for sewerage banks.
- Manufacture or reconstruction of impervious coverings of the sewer trunk lines.
- Filling of joints which are not subjected to movement, between precast concrete sewerage elements.
- Filling cracks in concrete casts of purification tanks and collectors.

TECHNICAL CHARACTERISTICS
Sewament 100 is a fibre-reinforced two-component prepacked mortar prepared according to a formula developed in the Mapei research laboratories. Part A: is a powder based on hydraulic binders with pozzuolanic reaction, selected graded aggregates, special additives and synthetic fibres. Part B: is a liquid based on acrylic polymers in water dispersion. Once mixed with Part B, latex, Sewament 100 becomes a mortar of thixotropic consistency, easily workable both manually and with a spraying machine for at least 45 minutes at +23°C.

Sewament 100 can be applied in a thickness of maximum 35 mm per layer. Thicker layers must be applied in more coats.

Thanks to its composition and total impermeability (DIN 1048), Sewament 100 is resistant to the chemical aggression produced by sulphuric acid due to the bacterial oxidation of hydrogen sulphide deriving from the anaerobic fermentation of civil and industrial sewage.

The high resistance to chemical aggression, which is unusual for a cementitious mortar, has been confirmed and certified by the Department of Microbiology of the Botanic Institute of the University of Hamburg, by subjecting Sewament 100 to aggressive conditions which were eight times higher with respect to those usually found in sewerage systems of large industrial cities.

The accelerated tests, that lasted nine months, were carried out in biological chambers that recreated the acidity conditions that followed inoculation of bacteria (Thiobacillus thiooxidans, Thiobacillus neapolitanus, Thiobacillus novellus, Thiobacillus intermedius) isolated...
Sewament 100

by a very corroded sewerage plant.
Following the results obtained,
Sewament 100 is suitable for repairing
damaged sewerage systems and can be
applied manually or can be wet sprayed.

RECOMMENDATIONS
• Do not apply Sewament 100 on smooth
surfaces.

• Concrete surfaces must be mechanically
roughened before applying the mortar.

• Do not add cement, additives or water to
Sewament 100.

• Avoid mixing Sewament 100 manually. If
the latex is not well blended with Part A it
could interfere with the final properties.

• Do not use Sewament 100 for
reparations carried out in a formwork
(use Mapegrout Hi-Flow).

APPLICATION PROCEDURE
Preparing the substrate
Completely remove any damaged concrete
and loose parts by mechanically
bush-hammering, milling or hydro-scarifying
until a sound, compact and strong substrate
is reached.
The correct thicknesses that need to be
removed must be established after on-site
tests.
It is also recommended to remove any
un-bonded materials applied during previous
repair works.
Furthermore, the concrete substrate must be
completely free of foreign substances such as
oils, grease, dirt, old paint or polymeric
coatings and renders. Corroded
reinforcement rods must be cleaned from rust
by sandblasting until grade SA 2½ is reached
according to DIN 55928.
Sandblasting is not necessary if the
preparation of the surface is carried out by
hydro-demolition because this method
ensures correct cleaning of the substrate and
re-bars.
After preparation the substrates must have a
roughness of at least 5 mm and at least
1.5 MPa tensile strength measured with a
dynamometer.
Protect the reinforcement rods with Mapefer,
protective two-component corrosion-
inhibiting and alkalinising mortar, or with
Mapefer 1K, one-component mortar.
Follow the application procedures described
on the relevant technical data sheets.
Wait until Mapefer or Mapefer 1K dries then
saturate the substrate with water. Wait until
the excess water evaporates completely
before repairing. To facilitate the removal or
excess water, use compressed air.

Preparing the Sewament 100
Mix a 25 kg bag of Sewament 100 Part A
with a 4.7 kg drum of Part B. Pour
approximately 2½ Part B, latex necessary for
the mixture (approximately 3 kg per 25 kg
bag) into a mixer and, while mixing, slowly
add the powder. Mix for several minutes.
Remove any unmixed powder from the sides
of the mixer and add the rest of Part B (1.7 kg
per bag of mixture). Remix until a
homogeneous lump-free mortar is obtained.
If very small quantities are needed,
Sewament 100 can also be prepared with a
drill fitted with a stirrer.

Application with a spraying
machine
Apply Sewament 100 with a spraying
machine on a roughened substrate saturated
with water with a dry surface.
In the case of very uneven substrates, it is
recommended to first fill most of the uneven
parts and then apply one or more smooth
layers of Sewament 100 until the correct final
thickness is reached. To ensure good
adhesion between the layers, apply the
following coat while the prior coat is still
fresh.
If the thickness needs to be higher than
30 mm, it is absolutely necessary to insert a
reinforcing net correctly distanced from the
substrate. Finish the surface with a sponge
float or a flat trowel.

Manual application
Apply Sewament 100 on the substrate
saturated beforehand with water, using a
trowel or a float. Press the mortar over the
substrate with the trowel and if necessary go
over it again with a flat trowel.
Depending on the desired texture, finish the
surface with a sponge float or with an
American trowel. 10-35 mm thickness in a
single coat can be carried out using
Sewament 100. Thicker layers can be carried
out by applying several coats of the mortar.
To ensure good adhesion between the layers,
apply the following coat while the prior coat
is still fresh. If the first coat has hardened,
manually apply a coat of Sewament 3
Primer.
If the thickness needs to be above 30 mm, it
is absolutely necessary to insert a reinforcing
net correctly distanced from the substrate.

Precautions to take during
and after application
No particular precaution needs to be taken at
temperatures around +20°C. During summer
it is recommended not to expose the product
to direct sunlight, but protect it and store it in
a cool place. At low temperatures it is
recommended to store the product in a
heated place to avoid Part B freezing.
Once applied, Sewament 100 must be
carefully cured to avoid rapid evaporation of
water that causes surface cracks due to
plastic shrinkage. Nebulize the Sewament
100 surface with water once it sets and for
the first 24 hours, or, alternatively,
immediately apply Mapecure E or
Mapecure S, water-based or solvent-based
film-forming curing compounds. Film-forming
curing compound products prevent the
adhesion of any floor or wall covering.
If a final protection will be used, it is
recommended to remove the Mapecure E
or Mapecure S by sandblasting or
hydro-sandblasting.
### TECHNICAL DATA (typical values)

#### PRODUCT IDENTITY

<table>
<thead>
<tr>
<th>Consistency:</th>
<th>Part A</th>
<th>Part B</th>
</tr>
</thead>
<tbody>
<tr>
<td>powder</td>
<td>liquid</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Colour:</th>
<th>grey</th>
<th>white</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Specific gravity (kg/dm³):</th>
<th>1.44 ± 0.1</th>
<th>1.07</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Maximum diameter of aggregate (mm):</th>
<th>2</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Dry solid content (%):</th>
<th>100</th>
<th>13</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Storage:</th>
<th>12 months in original sealed packaging in a cool dry place</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Hazard classification according to EC 99/45:</th>
<th>irritant.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before using consult the “Safety instructions” paragraph and the information on the packaging and safety data sheet</td>
<td></td>
</tr>
<tr>
<td>Customs class:</td>
<td>3824 50 90</td>
</tr>
</tbody>
</table>

#### APPLICATION DATA

**PROPERTIES OF THE FRESH MORTAR**

<table>
<thead>
<tr>
<th>Colour:</th>
<th>grey</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Mix ratio:</th>
<th>Part A : Part B = 5.3 : 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.7 kg Part B per 25 kg of Sewament 100 Part A</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consistency of mix:</th>
<th>plastic</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Slump (%):</th>
<th>60-85</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Specific gravity of mix (kg/dm³):</th>
<th>2.1</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>pH of mix:</th>
<th>&gt; 13</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Application temperature range:</th>
<th>from +5°C to +35°C</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Pot life:</th>
<th>(at + 5°C):</th>
</tr>
</thead>
<tbody>
<tr>
<td>(at + 23°C):</td>
<td>60’</td>
</tr>
<tr>
<td>(at + 30°C):</td>
<td>45’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Maximum thickness per coat (mm):</th>
<th>35 mm</th>
</tr>
</thead>
</table>

**PROPERTIES OF THE HARDENED MORTAR**

<table>
<thead>
<tr>
<th>Compressive strength at +23°C and 50% R.H. (MPa):</th>
<th>&gt; 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>– after 24 h:</td>
<td>&gt; 40</td>
</tr>
<tr>
<td>– after 7 days:</td>
<td>&gt; 50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flexural strength at +23°C and 50% R.H. (MPa):</th>
<th>&gt; 5.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>– after 24 h:</td>
<td>&gt; 8.0</td>
</tr>
<tr>
<td>– after 7 days:</td>
<td>&gt; 10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Compressive modulus of elasticity (MPa):</th>
<th>13 000-15 000</th>
</tr>
</thead>
<tbody>
<tr>
<td>– after 24 h:</td>
<td>17 000-19 000</td>
</tr>
<tr>
<td>– after 7 days:</td>
<td>20 000-22 000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ready to use:</th>
<th>5 days</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Bonding strength directly on the concrete at +23°C and 50% R.H. (MPa):</th>
</tr>
</thead>
<tbody>
<tr>
<td>– Sewament 100 was applied manually:</td>
</tr>
<tr>
<td>(after 28 days):</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bonding strength directly on the concrete at +10°C and 90% R.H. (MPa):</th>
</tr>
</thead>
<tbody>
<tr>
<td>– Sewament 100 was applied manually:</td>
</tr>
<tr>
<td>(after 3 days):</td>
</tr>
<tr>
<td>(after 7 days):</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>sprayed Sewament 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>– after 3 days:</td>
</tr>
<tr>
<td>– after 7 days:</td>
</tr>
<tr>
<td>– after 28 days:</td>
</tr>
</tbody>
</table>
SAFETY INSTRUCTIONS FOR THE PREPARATION AND APPLICATION

Sewament 100 contains cement that, in contact with sweat or other bodily fluids, produce an irritant alkaline reaction and in contact with the eyes, it can cause serious damage to them.

Wear protective gloves and goggles. For further information refer to the safety data sheet.

Cleaning
The still fresh grout can be removed from tools with clean water. Once hardened Sewament 100 can be removed only by mechanical means.

CONSUMPTION
Approximately 21 kg/m² per cm of thickness.

PACKAGING
Part A: 25 kg bags.
Part B: 4.7 kg drum.

STORAGE
Stored in original sealed packaging in a cool and dry place, Sewament 100 is stable for 12 months.

FOR PROFESSIONALS.

WARNING
N.B. - Although the technical details and recommendations contained in this product report correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical applications: for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application: in every case, the user alone is fully responsible for any consequences deriving from the use of the product.

All relevant references of the product are available upon request