Mapeguard® WP

Waterproofing Membrane Systems

Waterproofing sheet membrane systems for ceramic tile and stone

System Components:

Mapeguard WP 200

Mapeguard WP ST

Mapeguard PIC

Mapeguard POC

Mapeguard PC

Mapeguard VC

Waterproofing and
vapor-control membrane

High-performance
crack isolation

For use with
polymer-modified mortars

Mapeguard WP Waterproofing Membrane Systems

The modern residential bathroom is trending toward a spa atmosphere containing a single or a combination of water features such as bathtubs, showers, hot tubs and steam rooms, each contributing to creating wet and high-moisture environments. Other water exposure concerns include potential overflows or backups from sinks, tubs or commodes, coupled with the occasional plumbing leaks. The power of water and moisture in vapor form is immense, with the potential to do great harm to such construction materials as wood subfloors, wall framing and wallboards in an unprotected tiled bathroom. Of equal importance is protecting the areas adjacent to and below the bathroom from the ill effects of leaks or vapor condensation, increasing concerns related to mold- and mildew-friendly environments.

MAPEI's *Mapeguard WP* waterproofing membrane systems are uniquely engineered to deliver waterproofing, crack-isolation and vapor-control solutions, addressing the demands of wet and high-moisture environments encountered in today's ceramic tile and stone installations. From the installer's perspective, *Mapeguard WP 200* waterproofing sheet membrane with its desired feel and pliability is application-friendly, as an added benefit to the high performance standards attained in strength and dimensional stability. With its low perm rating, the system is approved for residential and commercial steam rooms, where the demands for vapor protection are critical. In addition to *Mapeguard WP 200* sheet membrane, the components of the *Mapeguard WP* waterproofing membrane system can include *Mapeguard WP ST* waterproofing sealing tape, *Mapeguard PIC* pre-formed inside corners, *Mapeguard POC* pre-formed outside corners, *Mapeguard PC* pre-formed pipe collars and *Mapeguard VC* pre-formed valve collars.

When these system components are used with a MAPEI mortar and grout, either a 10-year, 25-year or lifetime warranty will apply, depending on the products selected. The warranty term is based on product classifications according to industry standards and approvals. *Mapeguard WP* waterproofing membrane systems provide customers, contractors, architects and owners with single-source solutions from MAPEI, supported with its Best-Backed[SM] warranty program.

Components of *Mapeguard WP* waterproofing membrane systems can be purchased individually. Additionally, some components are offered collectively as the *Mapeguard* Combo Pack.

The *Mapeguard* Combo Pack consists of inside corners, outside corners, pipe collar and valve collar components packaged together in a kit. The installation corners and collar kit is a convenient, fast and easy way to seal around curbs, inside corners, outside corners, pipes, shower heads and shower mixing valves in wet areas, providing waterproofing and vapor-management protection when installing *Mapeguard WP 200* waterproofing membrane for ceramic tile and stone.

Mapeguard WP 200

Waterproofing Sheet Membrane for Ceramic Tile and Stone

Description

Mapeguard WP 200 is a thin, flexible polyethylene sheet membrane with a nonwoven, polypropylene fabric on both sides, used for both waterproofing and crack isolation in interior/exterior residential and commercial applications. The laminated fabric webbing is designed to anchor the membrane to the substrate and tiles to the membrane using the bonded thin-set method with recommended, polymer-modified mortars. *Mapeguard WP 200*'s low perm rating performance is ideal for vapor protection in showers and wet areas, as well as suitable for steam rooms in residential and commercial environments.

Features and Benefits

- Waterproofing and vapor control membrane
- High-performance crack isolation up to 1/8" (3 mm)
- Recommended for use with polymer-modified mortars
- For residential and commercial interior/exterior use on walls and floors
- Polyethylene layer with a laminated, nonwoven, polypropylene fabric on both sides
- Low perm rating per ASTM E96, Method E
- Approved for residential and commercial steam rooms

- Uniformed thickness with a thin profile
- Lightweight for easy handling and fast installation
- Install tile immediately after *Mapeguard WP 200* installation

Industry Standards and Approvals

- ANSI: Exceeds A118.10 standard (Waterproofing Membranes for Thin-Set Ceramic Tile)
- ANSI: Exceeds A118.12 standard (Crack-Isolation Membranes for Thin-Set Ceramic Tile)
- ASTM: C627 (Robinson) service rating of "Extra Heavy"
- ASTM: E96 Method E, meeting requirements of < 0.5 perms
- ICC Evaluation Service Report ESR 3474
- IAPMO File 3996

Where to Use

- Interior/exterior residential (homes, apartments and condominiums) and commercial (office buildings, restaurants, galleries and malls) floors and walls
- Use for renovating older floors to address existing in-plane cracks in the subfloor.
- Use to isolate stresses beneath the flooring associated with expansion and contraction of substrate materials.
- Use to protect lateral stresses in industry-approved plywood or oriented strand board (OSB) floors from transferring to the finished tile floor.
- Offers an installation solution when the construction timeline requires installing tile over green or young concrete slabs before the full 28-day cure
- For tubs, showers, bathrooms, kitchens, laundry rooms, food courts, lobbies, foyers and wet areas
- For steam rooms in residential and commercial environments

Limitations

- Do not use over cracks or control joints subject to out-of-plane movement, or subject to in-plane movement greater than 1/8" (3 mm).

- Do not use over substrates containing asbestos, plank wood flooring, presswood, particleboard, pressure- or oil-treated plywood, Lauan plywood, Masonite, self-stick tile, metal or fiberglass surfaces, epoxy floors or dimensionally unstable materials.

- Do not use when hydrostatic pressure exists.

- Do not use as a roof deck membrane, a wear surface, for submerged applications or on plywood in exterior applications.

- When using *Mapeguard WP 200* over gypsum-based floor patching or leveling compounds, reference the "Tiling over gypsum" technical bulletin in the Related Documents section of the Tile & Stone Installation Systems page on MAPEI's Website.

- Do not use premixed products, such as mastic, to set tile over *Mapeguard WP 200*.

- Ceramic, porcelain or glass tile or stone set over *Mapeguard WP 200* must be 2" x 2" (5 x 5 cm) or larger.

- When *Mapeguard WP 200* is used over young (green) concrete, the concrete must have cured for at least 7 days and be suitable to support tile installation traffic as determined by the project design professional, construction manager or general contractor.

- Not for use with solvent-based adhesives or materials

- Not for exterior applications as a primary waterproofing membrane

Note: On occasion, dimensionally weak natural-stone tile that normally would not be categorized as moisture-sensitive (such as travertine, limestone, marble and agglomerates) can exhibit doming, cupping or curling when large-and-heavy-tile mortars (previously called "medium-bed mortars") are used over impervious sheet membranes such as *Mapeguard WP 200* underlayment membrane. For this reason, areas requiring more than 3/8" (10 mm) thin-set mortar buildup require the use of a self-leveling underlayment or cured mud-bed application before installation of *Mapeguard WP 200*. When installing natural stone, always do a mockup area of the proposed installation and allow materials to reach a full cure to ensure

the desired effect. For details on these methods or materials, contact MAPEI's Technical Services Department before installation or design.

Suitable Substrates

- Concrete (including young concrete cured less than 28 days)

- Masonry cement block and brick

- Cement mortar beds, render coats and leveling coats

- Cement backer units (CBUs) – see the manufacturer's installation guidelines

- Gypsum wallboard and plaster – interior walls in dry areas only (priming may be required)

- Properly prepared existing ceramic and porcelain tile, cement terrazzo, quarry tile and pavers (interior in dry conditions only)

- Industry-approved APA Group 1 and CANPLY 0121 exterior-grade plywood and APA Sturd-I-Floor (interior, residential and light commercial floors and countertops in dry conditions only)

- See the TCNA Handbook and ANSI specifications for additional information and a statement regarding deflection.

- Properly prepared, well-bonded vinyl composition tile (VCT), non-cushioned sheet vinyl and cutback residue (interior only) with an appropriate adhesive

- Gypsum-based underlayments or patches – interior, dry conditions only and when thoroughly primed

- Radiant-heated floors

Consult MAPEI's Technical Services Department for installation recommendations regarding substrates and conditions not listed.

Surface Preparation

- All suitable substrates should be structurally sound, stable, dry and free of any substance or condition that may reduce or prevent proper adhesion.

- Substrate and ambient temperature must be between 40°F and 95°F (4°C and 35°C) for protection before, during and after installation.

- Installations with drains require a minimum slope of 1/4" per foot (6 mm per 0.30 m) toward the drain.

- Do not use chemical means (such as acid etching or stripping) to prepare substrates; use mechanical methods only.

- Mechanically clean and prepare concrete substrates by diamond-cup grinding or other engineer-approved methods to obtain the minimum International Concrete Repair Institute (ICRI) concrete surface profile (CSP) of #1. See the respective Technical Data Sheets (TDSs) for more information.

- In waterproofing applications, refer to TCNA Handbook, ANSI standards and local codes for requirements.

See the "Surface preparation requirements" reference guide in the Related Documents section of the Tile & Stone Installation Systems page on MAPEI's Website.

Regular and young (green) concrete

- All concrete substrates must be structurally sound, stable, dry, clean, and free of any substance or condition that may reduce or prevent proper adhesion. Concrete must be cured sufficiently to support tile installation traffic as determined by the design professional, construction manager or general contractor. The surface should be free of voids, sharp protrusions, loose aggregate, cement laitance, concrete sealers and curing compounds. All exterior applications must be properly and uniformly sloped.

Exterior-grade plywood

- Regarding the maximum allowable deflection, floor systems and substrates over which the tile will be installed – using the appropriate Tile Council of North America (TCNA) method, according to the Floor Tiling Installation Guide – must conform with the International Residential Code (IRC) for residential applications, the International Building Code (IBC) for commercial applications, or applicable building codes.

- For ceramic tile installations, the maximum allowable floor member live load and concentrated load deflection for framed floor systems must not exceed L/360, where "L" is the clear span length of the supporting member per applicable building codes. For natural-stone tile installations, maximum allowable floor member live load and concentrated load deflection for wood-framed floor systems should not exceed L/720, where "L" is the clear span length of the supporting member, per applicable building codes.

- For other specialty flooring products, including marble and slate, refer to the suppliers' recommendations for the finish flooring. Enhanced structural performance may be required for ceramic and natural-stone floor products. See the TCNA Handbook for Ceramic Tile Installation.

- Use a MAPEI polymer-modified mortar meeting ANSI A118.11 or ANSI A118.15 standard or classified as ISO 13007 C2E, C2F or better for installing *Mapeguard WP 200* in the applicable interior installation over plywood substrates.

Lightweight concrete

- Refer to the "Tiling over gypsum" technical bulletin in the Related Documents section of the Tile & Stone Installation Systems page on MAPEI's Website.

Product Application

1. Inspect the subfloor before installing *Mapeguard WP 200* underlayment membrane to ensure that the substrate is acceptable for tile or stone installation.

2. Snap chalk lines on the substrate and dry-fit *Mapeguard WP 200*, cutting the membrane to the required size for the installation. Allow for upturns and 2" (5 cm) overlaps as desired, or use *Mapeguard WP ST* instead of upturns and edge laps.

3. Mix a suitable MAPEI mortar for the substrate to a consistency on the high end of the recommended water range, in order to hold a notched ridge while allowing for wetting out of the fabric layer backing of the membrane.

4. Refer to the Technical Data Sheet for *Mapeguard WP 200* for complete installation details pertaining to membrane, sealing tape, inside corners, outside corners, pipe collars and valve collars.

Use a MAPEI polymer-modified mortar meeting ANSI A118.11 or ANSI A118.15 standard or classified as ISO 13007 C2E, C2F or better for installing *Mapeguard WP 200* in the applicable interior installation over approved wood substrates.

Tile Installation

<u>For ceramic, porcelain and stone tile</u>: In accordance with the TCNA Handbook for Ceramic Tile Installation and with porcelain tile manufacturers, use a MAPEI polymer-modified mortar suitable for the tile being installed. The mortar should meet the ANSI A118.4, ANSI A118.11 or ANSI A118.15 standard, or be classified as ISO 13007 C2E, C2F or better.

Grouting

Tiles may be grouted once the mortar has cured enough to allow light traffic, which will depend upon the mortar used, tile size, tile type and jobsite conditions. Select an appropriate MAPEI cement, ready-to-use or epoxy grout. For exterior installations, use MAPEI's *Ultracolor® Plus FA* rapid-setting grout. Allow for longer drying time before grouting when installing large-format tiles (that is, tiles greater than 15" or 38 cm on one or more sides).

Flood-Testing (per ASTM D5957)

Flood-testing is recommended before the finished flooring is installed, even if not required. Allow the system of *Mapeguard WP 200*, seams and connections to cure at least 24 hours at 73°F (23°C) and 50% relative humidity. Actual curing time depends on air and substrate temperatures, substrate porosity and humidity. Expect shorter drying times in warmer conditions, and longer drying times in cooler conditions.

Product Performance Properties

Laboratory Tests	Results
ASTM C627 Service Rating (Robinson)	
16" (41 cm) o.c., wood substrate	Heavy
Concrete slab	Extra heavy

Shelf Life and Product Characteristics

Shelf life	2 years when stored in original, unopened packaging at 73°F (23°C) and 50% relative humidity
Physical state	Polyethylene sheet membrane with non-woven polypropylene fabric on both sides
Thickness	0.02" (0.44 to 0.48 mm), nominally 40 to 50 mils
Color	Blue
Storage and performance temperature range	-4°F to 122°F (-20°C to 50°C)

ANSI Specifications

Property	Test Results
System performance – ANSI A118.10	Pass
Fungus and microorganism resistance – ANSI A118.10	No mold growth
Seam strength – ANSI A118.10 and ASTM D751	23 lbs./in. (0.02 kgf/mm^2)
Breaking strength – ANSI A118.10 and ASTM D751	
Transverse	1,365.6 psi (9.42 MPa)
Longitudinal	2,003.2 psi (13.8 MPa)
Dimensional stability – ANSI A118.10 and ASTM D1240	< 0.7%
Waterproofness – ANSI A118.10 and ASTM D4068	Pass
Shear strength to ceramic tile and cement mortar – ANSI A118.10 and ASTM C482	> 50 psi (0.34 MPa)
Water vapor transmission – ASTM E96 (Method E)	0,22 (grains/h·ft^2)
Permeance – ASTM E96 (Method E)	0,12 perms
Shear strength – ASTM C482	
7 days, dry	136.6 psi (0.94 MPa)
7 days, water immersion	120.4 psi (0.83 MPa)
4 weeks, water immersion	112.8 psi (0.78 MPa)
12 weeks, water immersion	132.5 psi (0.91 MPa)
100 days, water immersion	142.4 psi (0.98 MPa)
Crack isolation – ANSI A118.12	High performance > 1/8" (3 mm)

Packaging and Coverage

Size	Coverage	Product Code
Roll: 39.4" x 16.4' (1 m x 5 m)	53.8 sq. ft. (5 m²)	2850205
Roll: 39.4" x 32.8' (1 m x 10 m)	108 sq. ft. (10 m²)	2850210
Roll: 39.4" x 98.4' (1 m x 30 m)	323 sq. ft. (30 m²)	2850230
Roll: 6' x 50' (1.83 m x 15.2 m)	300 sq. ft. (27.9 m²)	2850215

Waterproofing Sealing Tape for
Mapeguard WP 200

Description

Mapeguard WP ST is a fast and easy way to cover seams and wall upturns to provide waterproofing and vapor management protection when installing *Mapeguard WP 200* waterproofing sheet membrane for ceramic tile and stone.

Features and Benefits

- For waterproofing installations of *Mapeguard WP 200*

- For seams and changes of plane

- Component of a waterproof/vapor-barrier membrane system

- Easy to cut, adjust and install

- Compatible with MAPEI polymer-modified mortars

Mapeguard WP ST

Shelf Life and Product Characteristics

Type of material	Polyethylene sheet membrane with non-woven polyproylene fabric on both sides
Material thickness	0.01" (0.30 to 0.40 mm), nominally 30 to 40 mils
Tape color	Blue
Storage and performance temperature range	-4°F to 122°F (-20°C to 50°C)
Shelf life	2 years when stored in a dry area in original shipping package at 73°F (23°C) and 50% relative humidity

Packaging and Coverage

Size	Coverage	Product Code
Roll: 4.7" x 16.4' (12 cm x 5 m)	16.4 lineal ft. (5 m) per roll	2856405 (10 units per case)
Roll: 4.7" x 32.8' (12 cm x 10 m)	32.8 lineal ft. (10 m) per roll	2856410 (10 units per case)
Roll: 4.7" x 98.4' (12 cm x 30 m)	98.4 lineal ft. (30 m) per roll	2856430 (6 units per case)

MAPEI

Mapeguard PIC

Pre-Formed Inside Corners

Description

Mapeguard PIC is a thin, flexible, alkali-resistant, polyethylene membrane coated on both sides with a nonwoven polypropylene fabric. It offers a fast and easy way to seal inside corners in wet areas where walls and floors meet, providing waterproofing and vapor management protection when combined with *Mapeguard WP 200* waterproofing membrane for ceramic tile and stone.

Features and Benefits

• Waterproofing protection for critical areas

• Crack-bridging properties

• High tensile strength

• Low permeability design

Shelf Life and Product Characteristics

Shelf life	2 years when stored in a dry area in original shipping package at 73°F (23°C) and 50% relative humidity
Type of material	Polyethylene sheet membrane with nonwoven polypropylene fabric on both sides
Material thickness	0.03" (0.45 to 0.65 mm), nominal
Membrane color	Blue
Storage and performance temperature range	-4°F to 122°F (-20°C to 50°C)

Packaging

Size	Coverage	Product Code
4-5/16" x 4-5/16" x 3-1/2" (11 x 11 x 9 cm), nominal	2 per package with 10 packages per box	2858102 (20 units per case)
4-5/16" x 4-5/16" x 3-1/2" (11 x 11 x 9 cm), nominal	Bulk box	2858101 (25 units per case)

Pre-Formed Outside Corners

Description

Mapeguard POC is a thin, flexible, alkali-resistant, polyethylene membrane coated on both sides with a nonwoven polypropylene fabric. It offers a fast and easy way to seal outside corners, curbs or return walls in wet areas where walls/curbs and floors meet, providing waterproofing and vapor management protection when combined with *Mapeguard WP 200* waterproofing membrane for ceramic tile and stone.

Features and Benefits

- Waterproofing protection for critical areas
- Crack-bridging properties
- High tensile strength
- Low permeability design

Mapeguard POC

Shelf Life and Product Characteristics

Shelf life	2 years when stored in a dry area in original shipping package at 73°F (23°C) and 50% relative humidity
Type of material	Polyethylene sheet membrane with nonwoven polypropylene fabric on both sides
Material thickness	0.03" (0.45 to 0.65 mm), nominal
Membrane color	Blue
Storage and performance temperature range	-4°F to 122°F (-20°C to 50°C)

Packaging

Size	Unit	Product Code
4-5/16" x 4-5/16" x 3-1/2" (11 x 11 x 9 cm), nominal	2 per package with 10 packages per box	2858202 (20 units per case)
4-5/16" x 4-5/16" x 3-1/2" (11 x 11 x 9 cm), nominal	Bulk box	2858201 (25 units per case)

Mapeguard PC

Pre-Formed Pipe Collars

Description

Mapeguard PC is a thin, flexible, alkali-resistant, polyethylene membrane coated on both sides with a nonwoven polypropylene fabric engineered with a stretchable rubber center. It offers a fast, tight and easy way to seal around pipes and shower heads in wet areas, providing waterproofing and vapor management protection when combined with *Mapeguard WP 200* waterproofing membrane for ceramic tile and stone.

Features and Benefits

• Waterproofing protection for critical areas

• Crack-bridging properties

• High tensile strength

• Low permeability design

Shelf Life and Product Characteristics

Shelf life	2 years when stored in a dry area in original shipping package at 73°F (23°C) and 50% relative humidity
Type of material	Polyethylene sheet membrane with nonwoven polypropylene fabric on both sides
Material thickness	0.02" (0.35 to 0.45 mm), nominal
Membrane color	Blue
Storage and performance temperature range	-4°F to 122°F (-20°C to 50°C)

Packaging

Size	Unit	Product Code
Round 7.1" (18 cm), nominal	1 per package with 10 packages per box	2854101 (10 units per case)
Round 7.1" (18 cm), nominal	Bulk box	2854125 (25 units per case)

Pre-Formed Valve Collars

Description

Mapeguard VC is a thin, flexible, alkali-resistant, polyethylene membrane coated on both sides with a nonwoven polypropylene fabric engineered with a stretchable rubber center. It provides a fast and easy way to seal around shower mixing valves in wet areas, providing waterproofing and vapor management protection when combined with *Mapeguard WP 200* waterproofing membrane for ceramic tile and stone.

Features and Benefits

- Waterproofing protection for critical areas

- Crack-bridging properties

- High tensile strength

- Low permeability design

Mapeguard VC

Shelf Life and Product Characteristics

Shelf life	2 years when stored in a dry area in original shipping package at 73°F (23°C) and 50% relative humidity
Type of material	Polyethylene sheet membrane with nonwoven polypropylene fabric on both sides
Material thickness	0.02" (0.35 to 0.45 mm), nominal
Membrane color	Blue
Storage and performance temperature range	-4°F to 122°F (-20°C to 50°C)

Packaging

Size	Unit	Product Code
Round 9.84" (25 cm), nominal	1 per package with 10 packages per box	2856601 (10 units per case)
Round 9.84" (25 cm), nominal	Bulk box	2856625 (25 units per case)

Mapeguard
Combo Pack

Installation Corners and Collars Kit

Description

Mapeguard Combo Pack consists of inside corners, outside corners, pipe collar and valve collar components packaged together in a kit. This kit offers a convenient, fast and easy way to seal around curbs, inside corners, outside corners, pipes, shower heads and shower mixing valves in wet areas to provide waterproofing and vapor management protection, when combined with *Mapeguard WP 200* waterproofing membrane for ceramic tile and stone.

Features and Benefits

- Waterproofing protection for critical areas
- Crack-bridging properties
- High tensile strength
- Low permeability design

Packaging

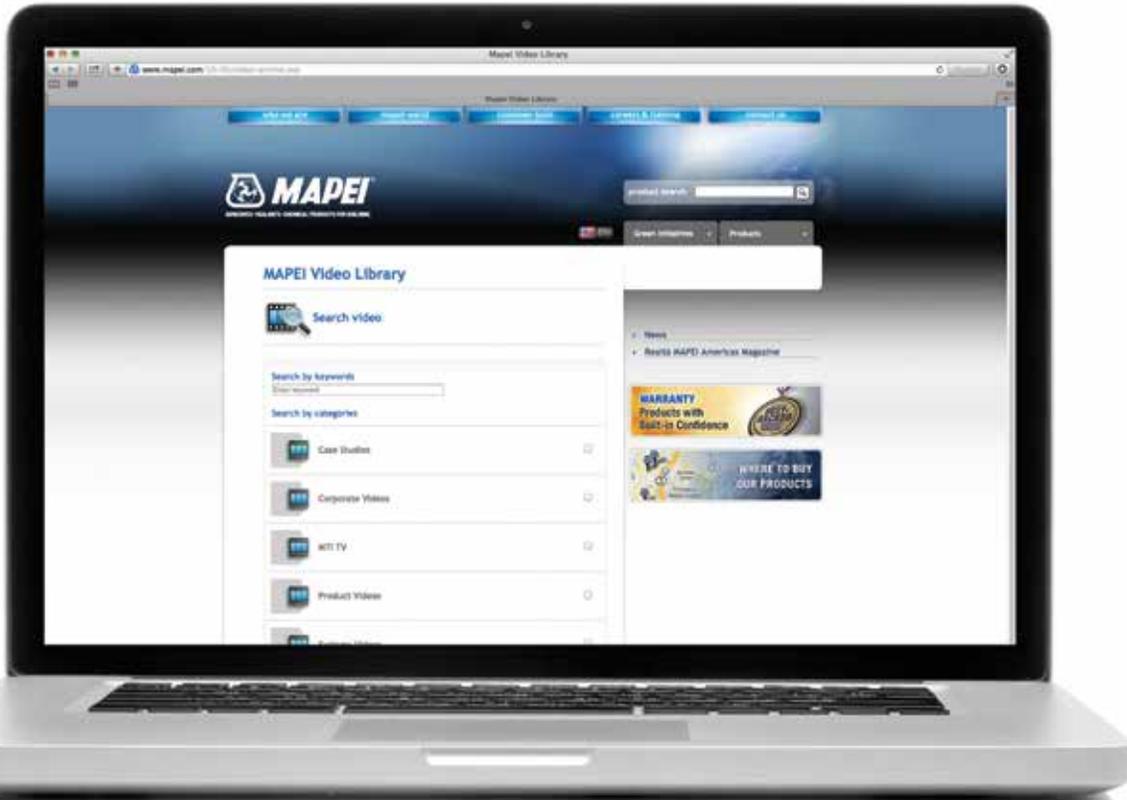| Size	Product Code
Box containing 4 *Mapeguard PIC* inside corners, 4 *Mapeguard POC* outside corners, 1 *Mapeguard PC* pipe collar and 1 *Mapeguard VC* valve collar	2856301

BEST-BACKED℠ WARRANTY

When a *Mapeguard WP* waterproofing membrane system is used with a MAPEI mortar and grout, either a 10-year, 25-year or lifetime warranty will apply, depending on the selection of the products used. The term of the warranty is based on product classifications according to industry standards and approvals.

The combination of *Ultraflex™ LFT™* modified large-and-heavy-tile mortar and *Ultracolor® Plus FA* grout with a *Mapeguard WP* waterproofing membrane system is covered by a 25-year system limited warranty. Materials and labor are included in this warranty.

Additional Information

For *Mapeguard WP* waterproofing membrane system videos and technical literature, visit www.mapei.com.

Mapeguard® WP
Membrane Installation Systems

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