

### BestGym Tile MS-700

#### Modified Silane Wet-Set Adhesive

**SKU: 3EX700**

#### PRODUCT DESCRIPTION

MS-700 is a premium, one component modified silane adhesive used for the permanent installation of vinyl & rubber flooring products, including recycled or crumb rubber flooring products. MS-700 is free of water, solvents, VOCs and hazardous chemicals, such as those found in urethanes and epoxies. Though incredibly strong, adhesive is easy to clean and will not mar or etch the surface of flooring materials.

MS-700 can be installed over porous and non-porous substrates in indoor and outdoor applications, allowing for the installation of flooring materials in entrances or areas that are not temperature controlled. MS-700 is highly tenacious, waterproof and extremely resistant to high levels of moisture and alkalinity, whether topical or from the substrate. Adhesive is suitable for heavy traffic or rolling loads.

#### FEATURES

- Zero VOC
- No Water or Solvents
- Excellent Early Strength
- Will Not Mar or Discolor Flooring Materials
- Easy To Clean
- Contributes to LEED Credits
- Can be Directly Installed Over MM-100
- Excellent Shear Strength
- Indoor / Outdoor
- Waterproof

#### TECHNICAL INFORMATION

Unit Size:	<b>2 Gallons</b>	Porous Flash Time:	<b>5 - 10 Minutes</b>
Weight:	<b>27 lbs.</b>	Non-Porous Flash Time:	<b>15 - 20 Minutes</b>
VOC:	<b>0 g/l</b>	Porous Working Time:	<b>40 Minutes</b>
LEED v2009 IEQ Credit 4.1:	<b>Complies</b>	Non-Porous Working Time:	<b>40 Minutes</b>
ASTM F2170 RH Limit:	<b>95% RH</b>	Light Foot Traffic:	<b>8 - 12 Hours</b>
ASTM F1869 MVER Limit:	<b>10 lbs.</b>	Heavy Foot Traffic:	<b>24 Hours</b>
ASTM F710 pH Limit:	<b>7 - 10</b>	Heavy Rolling Loads:	<b>48 Hours</b>
Porous Coverage Rate:	<b>160 sq. ft. per gallon</b>	Maintenance:	<b>48 Hours</b>
Non-Porous Coverage Rate:	<b>260 sq. ft. per gallon</b>	Shelf Life:	<b>1 Year</b>
Crumb Rubber Coverage Rate:	<b>135 sq. ft. per gallon</b>	Storage Temperature:	<b>65° - 75° F</b>

SPREAD RATE CHART		
Substrate/Flooring	Trowel Size	Coverage Per Gallon
Crumb Rubber	3/32 x 3/32 x 3/32" V Notch	135 sq. ft.
Porous	1/16" x 1/16" x 1/16" V Notch	160 sq. ft.
Non-Porous	1/32" x 1/16" x 1/32" U Notch	260 sq. ft.

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### PRODUCT LIMITATIONS

All referenced times are subject to substrate porosity and flatness, as well as ambient conditions, such as air temperature, relative humidity and substrate temperature – actual times may vary based on these conditions. Adhesive cannot resist extreme dimensional instability of flooring materials, which may cause gapping, cupping, buckling and/or edge lifting. Do not install over existing rubber flooring, LVT, sheet goods, asphaltic materials and adhesives or adhesive residues. Do not install adhesive when ambient humidity levels are below 50% RH.

### 1. PRE-INSTALLATION CHECKLIST

- Consult all associated product literature concerning installation and warranty prior to installation.
- Allow all trades to complete work prior to installation.
- Deliver all materials to the installation location in its original packaging with labels intact.
- Inspect all materials to ensure there is no leakage or damage.
- Do not stack pallets to avoid damage.
- Ensure installation area and material storage temperatures are between 65o F (19o C) and 85o F (30o C) and 50% - 75% RH for at least 48 hours before, during and after installation.
- Ensure HVAC system is operational and fully functioning at normal operating conditions 48 hours prior to, during and 48 hours after installation.
- Protect installation area from extreme temperature changes, such as heat and freezing, as well as direct sunlight for at least 48 hours before, during and after installation.
- Ensure concrete moisture testing is conducted or scheduled to be conducted prior to flooring installation.
- Ensure all vents, walls, moldings and/or doorways are protected with tape or plastic prior to installation.
- Test substrate for porosity in order to determine the installation method necessary.
- Do not proceed with installation until all conditions have been met.

### 2. SUBSTRATE PREPARATION

All substrates must be prepared according to ASTM F710, as well as applicable ACI and RFCI guidelines. Substrates must clean, smooth, permanently dry, flat, and structurally sound. Substrates must be free of visible water or moisture, dust, sealers, paint, sweeping compounds, curing compounds, residual adhesives and adhesive removers, concrete hardeners or densifiers, solvents, wax, oil, grease, asphalt, visible alkaline salts or excessive efflorescence, mold, mildew and any other extraneous coating, film, material or foreign matter. All substrates must be vacuumed with a flat vacuum attachment or damp mopped with clean, potable water to remove all surface dust. ***Sweeping without vacuuming or damp mopping will not be acceptable.***

It is recommended that all substrates have a floor flatness of FF32 and/or a flatness tolerance of 1/8" in 6' or 3/16" in 10.' All porous substrates must be tested to confirm porosity. To determine substrate porosity, place three, .05 mL (1/4" wide) droplets of clean, potable water onto the surface of the substrate per every 2000 sq. ft. If the substrate absorbs water within 60 seconds, the substrate is considered porous. All other substrates that do not meet this requirement are considered non-porous. Ensure that all non-porous substrates are not contaminated with any aforementioned contaminates.

When conducting renovations or remodeling, remove all existing adhesive residue so that 90% of the original subfloor/substrate is exposed by mechanical means, such as shotblasting, grinding or buffing with a 100 grit Diamabrush Prep Plus attachment.

Do not use solvent/citrus based adhesive removers prior to installation. Follow The Resilient Floor Covering Institute's (RFCI) "Recommended Work Practice for Removal of Existing Floor Covering and Adhesive", and all applicable local, state, federal and industry regulations and guidelines. When removing asbestos and asbestos containing materials, follow all applicable OSHA standards.

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### **CONCRETE SUBSTRATES**

All concrete must have a minimum compressive strength of 3500 PSI and be prepared in accordance with ASTM F710. When flooring is being installed directly over concrete, concrete surfaces that have an ICRI Concrete Surface Profile (CSP) over 4 should be flattened with a self-leveling underlayment or a patch to prevent imperfections from telegraphing through flooring materials. On or below grade concrete must have a permanent, effective moisture vapor retarder installed below the slab. New or existing concrete substrates on all grade levels must be tested in accordance with ASTM F2170, using in situ Probes (such as Wagner Rapid RH), to quantitatively determine the amount of relative humidity no more than one week prior to the installation.

In addition to ASTM F2170 Relative Humidity Testing, existing concrete that has previously had floor covering installed on all grade levels must be tested in accordance with ASTM F 1869, using Calcium Chloride test kits, to quantitatively determine the Moisture Vapor Emissions Rate (MVER) of the concrete.

If ASTM F2170 or ASTM F1869 test results exceed the prescribed limits, a moisture mitigation product, such as Excelsior MM-100 Moisture Mitigation, must be installed prior to proceeding with installation. Install The MM-100 per technical data sheet at a rate of 400 sq. ft. per gallon. When installing over concrete as moisture mitigation, material must be applied in two coats. Do not install flooring until moisture testing has been conducted per the appropriate standard and/or moisture mitigation has been installed and is dry to the touch. Do not install flooring in below grade areas when hydrostatic pressure is visible or suspected.

If ASTM F2170 and ASTM F1869 test results are below recommended limits, concrete substrates must be tested for elevated pH and alkalinity in accordance with ASTM F710.

If pH testing per ASTM F710 exceeds the prescribed limits, the concrete must be sealed with the Excelsior MM-100 Moisture Mitigation prior to proceeding with installation. Install the MM-100 per technical data sheet at a rate of 400 sq. ft. per gallon. When installing MM-100, apply a minimum of 1 coat. Do not install flooring until material is dry to the touch.

### **RESINOUS SUBSTRATES**

When installing directly over a resinous products, such as the Excelsior MM-100 or an epoxy coating, ensure that coating is dry to the touch and has cured for the prescribed length of time. When installing over the MM-100, wait 24 hours prior to installing adhesive to avoid adhesion complications. Substrate must be clean, dry, sound and free of contaminates. Resinous substrates are non-porous – follow all installation instructions, trowel sizes and flash times for non-porous substrates.

### **GYPSUM BASED SUBSTRATES**

Gypsum-based substrates must have a minimum compressive strength of 3500 PSI. Gypsum substrates that do not meet this requirement may have one coat of the Excelsior MM-100 installed to improve the strength of substrate. Substrate must be structurally sound and firmly bonded to subfloor. Any cracked or fractured areas must be removed and repaired with a compatible patch or repair product. Follow instructions for installation over a gypsum substrate. New or existing gypsum substrates may require a sealant or primer. Follow all manufacturer's recommendations regarding preparation for resilient flooring installation.

### **WOOD SUBSTRATES**

Wood substrates must be prepared in accordance with ASTM F1482. Wood subfloors should be of double layer construction with a minimum thickness of 1". Crawl spaces beneath wood subfloors shall be in compliance with local building ventilation codes and have at least 18" of cross-ventilated space between the ground and the joists. Wood joists should be spaced on not more than 16" centers.

Prior to installation, moisture retardant sheeting with a maximum rating of 1.0 perm must be installed beneath the wood subfloor, overlapped at least 8". For standard installations, use Underlayment Grade plywood with a minimum thickness of 1/4" thick and a fully sanded surface. When floors may be subjected to moisture, use an APA approved exterior grade plywood.

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Other wood subfloor materials, such as OSB, lauan, particleboard, chipboard or cementitious tile backer boards, are not acceptable subfloors. Avoid preservative-treated and fire-retardant plywood, as some may be manufactured with resins or adhesives that may cause discoloration or staining of the flooring.

Wood subfloor deflection, movement, or instability will cause the flooring installations to release, buckle or become distorted. As such, do not use plastic or resin filler to patch cracks. Do not use cement or rosin coated nails and staples or solvent-based construction adhesives to adhere the plywood. Do not install on a sleeper system (wood subfloor system over concrete) or directly over Sturd-I-Floor panels.

### **METAL SUBSTRATES**

Metal substrates must be thoroughly sanded/grinded and cleaned of any residue, oil, rust and/or oxidation. Substrate must be smooth, flat and sound prior to installation. Install flooring material within 12 hours after sanding/grinding to prevent re-oxidation. Any deflection in the metal floor can cause a bond failure between the adhesive and the metal substrate. Metal substrates are non-porous – follow all installation instructions, trowel sizes and flash times for non-porous substrates.

### **EXISTING FLOORING SUBSTRATES**

Existing rubber flooring and LVT, as well as the adhesives used to install them, must be completely removed from the substrate prior to installation. Existing hardwood flooring, sheet goods, asphaltic materials and existing adhesives or adhesive residue must have a compatible cementitious patch or underlayment installed over the substrate prior to installation. Existing hardwood flooring may also have suitable underlayment grade plywood installed over the substrate.

Adhesive may be installed over existing Vinyl flooring substrates, such as VCT, VAT, quartz tile or Solid Vinyl Tiles, as well as existing Stone flooring substrates, such as terrazzo, porcelain or ceramic tile. Ensure existing flooring is a single layer of material and that all materials are clean, dry, sound, solid, well adhered and free of site-applied finishes, waxes and/or contaminants. Any and all loose tiles must be removed and repaired or replaced. When handling asbestos containing materials, ensure all OSHA regulations are followed and all procedures are compliant with local, state, federal and industry regulations and guidelines. All grout lines and irregularities must be filled and troweled flush with a suitable cementitious patch, such as the Excelsior CP- 300. All existing flooring substrates that are outside of flatness tolerances should be repaired with a cementitious patch or self-leveling underlayment (with a minimum compressive strength of 3500 PSI after 28 days) to avoid telegraphing imperfections through flooring material.

All existing flooring substrates must have any and all site-applied finishes and/or waxes completely removed prior to flooring installation in order to ensure a proper adhesive bond. For mechanical removal, use a low-speed buffer and 40-60 grit sandpaper. Properly prepared substrates should not have any remaining gloss or sheen. For chemical removal, ensure chemical treatments will not disrupt adhesion of the existing flooring to the substrate. Be sure to rinse the existing flooring adequately with clean, potable water to remove any and all chemicals from the surface of material. When removing finish from asbestos containing materials, ensure all OSHA guidelines regarding the removal of finish from asbestos is followed, in addition to applicable federal, state, local and industry regulations and guidelines.

Do not install flooring until any moisture on, between or below existing flooring has completely dried. Ensure all dust, dirt and debris are removed prior to flooring installation. Existing flooring substrates are non-porous – follow all installation instructions, trowel sizes and flash times for non-porous substrates.

### **RADIANT HEATING SUBSTRATES**

When installing flooring over a substrate that contains a radiant heating system, ensure the radiant heat is turned off 48 hours prior to installation and remains off during the entire installation. 48 hours after installation, the radiant heat may be gradually increased over the course of 24 hours, until normal operating temperature is reached. Ensure the temperature of the radiant heating system does not exceed 85° F (29.5° C) and avoid making abrupt changes in radiant heating temperature.

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### 3. CRACKS, JOINTS & VOIDS

All cracks, joints and voids, as well as the areas surrounding them, must be clean and free of dust, dirt, debris and contaminants. All minor cracks and voids 3/64" wide or less may be repaired with a suitable cementitious patch.

Due to the dynamic nature of concrete slabs, manufacturer *cannot* warranty installations to cover expansion joints, cracks or other voids (such as control cuts, saw joints and moving cracks or voids) wider than 3/64". Do not install flooring directly over any expansion joints or cracks wider than 3/64".

All expansion joints should have a suitable expansion joint covering system installed to allow expansion joint to freely move. To treat expansions joints where an expansion joint covering system can't be installed or to treat through cracks (depth at least 75% of the thickness of the concrete), chase joint or crack with a suitable saw or grinder and open to a minimum width of 1/4". Be sure to clean all dust, dirt and debris from crack. Joints and cracks should then be sealed with a suitable, elastomeric caulk (such as Ardex Ardiseal Rapid Plus, Mapei P1 SL or equivalent) designed for use in expansion joints. Install a closed-cell backer rod at prescribed depth and follow caulk manufacturer's instructions for installation. Ensure surface is troweled flush with surface of concrete.

To treat other cracks and voids (such as control cuts, saw-cut joints and surface cracks) over 3/64", chase joint or void with a suitable saw or grinder and clean all dust, dirt and debris from crack. Fill entire crack with a rigid crack filler (such as Ardex Ardifix, CMP CM10 or equivalent) designed for use in control or saw-cut cuts. Follow material manufacturer's instructions for installation. Ensure surface is troweled flush with surface of concrete.

***Consult a structural engineer prior to treating any crack or joint, especially those that may affect structural integrity (such as expansion joints). Review all manufacturer installation instructions and/or consult manufacturer technical staff for all crack or joint filling products prior to treating joints and cracks.***

### 4. PRODUCTS INSTALLATION

Ensure substrate is suitably prepared prior to installation, as manufacturer is not responsible for substrates that have not been properly prepared and tested for moisture. Ensure adhesive is approved for use with flooring material and the proper trowel type and size is used, as manufacturer is not responsible for any and all adhesion issues related to improper adhesive selection or usage. Ensure ambient humidity is at least 50% RH to ensure that adhesive will properly cure. To determine correct trowel size, see chart on page 1.

Use a nail-down guide or equivalent visual aid along starting row to expedite installation. Spread adhesive using appropriate trowel size at a 60° angle, ensuring consistent coverage. Do not allow adhesive to puddle or pool. Replace trowels at recommended intervals to maintain proper trowel ridge and spread rate.

Allow adhesive to flash for 5-10 minutes (15-20 minutes for non-porous substrates) and protect area from dust, debris and contamination. When installing sheet goods, allow adhesive to flash for 10-15 minutes to avoid excessive shifting during installation. Once flashed, install material into fresh adhesive within 40 minutes. Periodically lift material to ensure proper adhesive transfer - adhesive should cover 90% of tile. Pay close attention to open times to avoid adhesion issues - this may require installing material in smaller sections., especially when installing sheet goods over porous substrates.

***Do not work on material that is installed into wet adhesive, as this could displace adhesive.*** When working off of material is not possible, use a kneeling board or equivalent to disperse weight evenly and prevent adhesive displacement. Immediately after installation, roll the flooring material with a 3 section, 100 lb., crossing in a perpendicular direction after initial roll. Use a hand roller in areas that cannot be reached with larger roller. Re-roll flooring 30-60 minutes after initial roll. Visually inspect installation to ensure that material has not shifted and that adhesive has not been squeezed out of joints or compressed onto surface. Adhesive can be easily removed if wet or dry.

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### **5. CLEAN-UP**

Wet adhesive or adhesive residue can be removed from flooring materials with a clean cloth and a solution of Excelsior NC- 900 or equivalent and clean, potable water. Adhesive that has dried on the surface of flooring materials can be mechanically removed with a plastic or rubber putty knife or equivalent. Tools and materials where adhesive has dried can be mechanically cleaned with a scraper or similar tool.

### **WARRANTY**

Manufacturer provides a 1 year material & labor warranty for all installations where adhesive is properly installed. See Excelsior adhesive warranty for more information.

**FOR PROFESSIONAL USE ONLY. PLEASE CONSULT ALL ASSOCIATED TECHNICAL DATA SHEETS, SAFETY DATA SHEETS AND WARRANTY INFORMATION PRIOR TO INSTALLATION.**

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