



APPLICATION MANUAL

Sikafloor® Marine VEM Steel Vertical Stud bolt Version

APRIL 2023 / VERSION 01 / SIKA SERVICES AG



BUILDING TRUST



HEALTH AND SAFETY EQUIPMENT

Use protection gear according to the most current Safety Data Sheet.

REQUIREMENTS (PRECONDITIONS AND ACTIONS)

The following requirements are essential and mandatory to create acoustic systems, use this application manual in conjunction with the current Product Data Sheet.

- Application may only be performed by trained professional applicators and contractors.
- Steel or Aluminum bulkhead must be treated with anti-corrosion coat; or paint system referring to the actual project specification.
- On zinc-rich primed metal or bare aluminum bulkheads it is required to apply the SikaCor® ZP Primer prior any application.
- The area must be protected from weather conditions.
- Ensure that access to the application area is restricted to the installation team.
- Ambient and substrate temperature needs to be between 5 °C and 30 °C.
- Do not apply Sikafloor® Marine products if the relative humidity is above 80 %.

SYSTEM BUILD UP / COVERAGE

	Sikafloor® Marine VEM X			Electro galvanized steel tiles		
Thickness	1 mm	2 mm	3 mm	1.5 mm	2 mm	3 mm
Size stud bolt version				450 x 550mm		
Weight per m ²	1.3 kg/m ²	2.6 kg/m ²	3.9 kg/m ²	12 kg/m ²	16 kg/m ²	24 kg/m ²

For the electrogalvanized steel plates (tiles), always consider that the practical consumption is related to the application and the complexity of the area (pipe penetrations, columns, etc.). Therefore, it is recommended to not consider the gaps between the plates but to calculate the coverage of steel as 100 % of the area. For the Sikafloor® Marine VEM X always consider that the practical consumption is related to application, bulkhead deviations (tolerances), etc. It is recommended to add 10 % to the theoretical consumption to cover the mentioned factors.




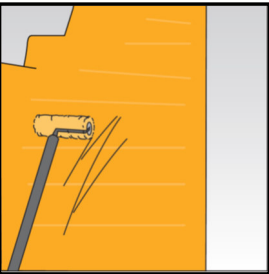
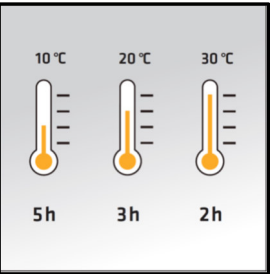

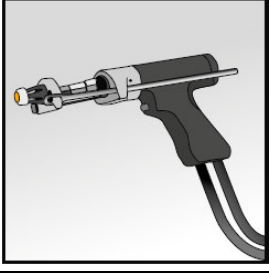
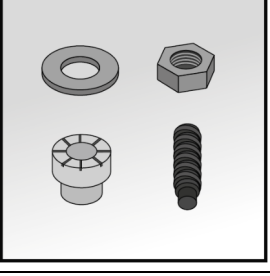
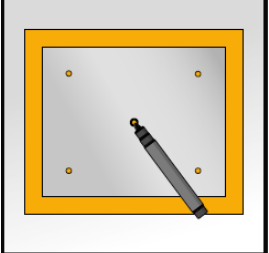
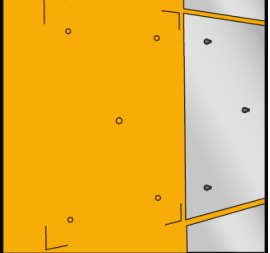
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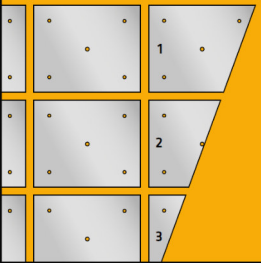
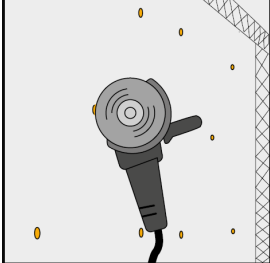
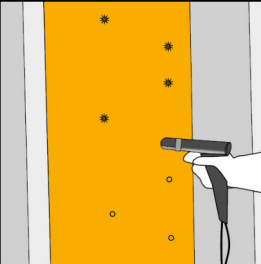
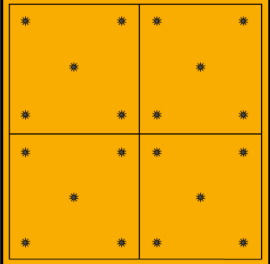

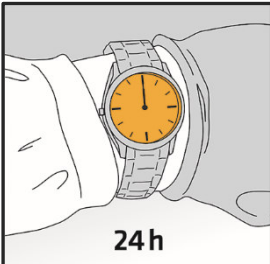
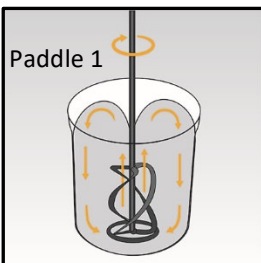
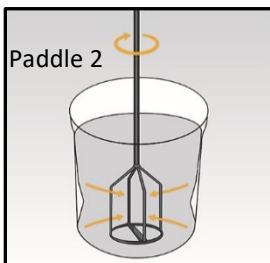
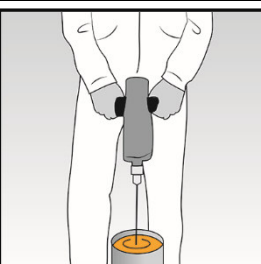

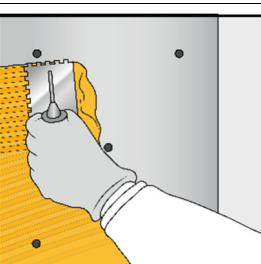
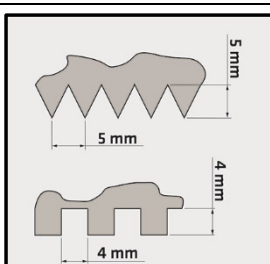
For most current versions of IMO approvals and other Marine certificates contact your local Sika representative.

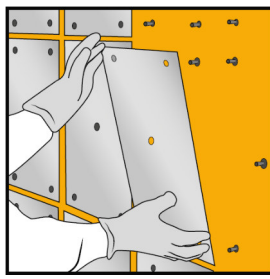

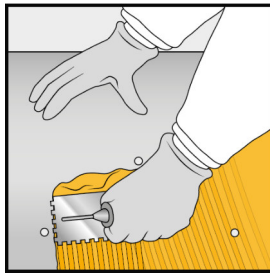
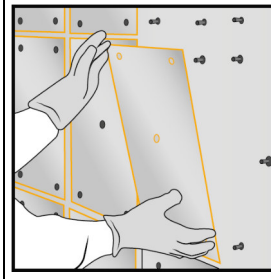
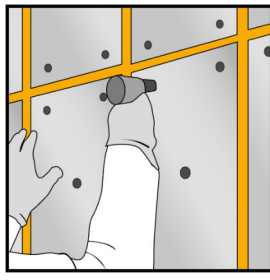
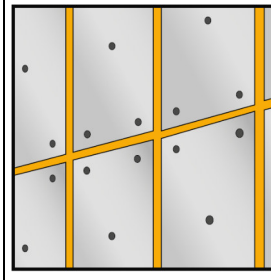
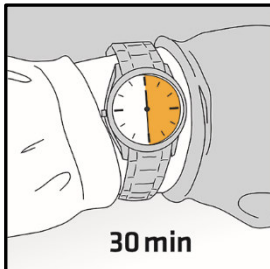
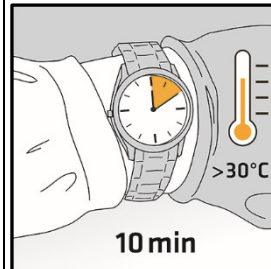
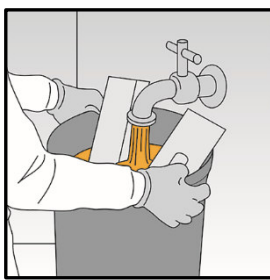
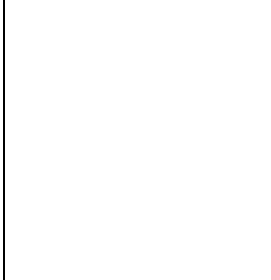
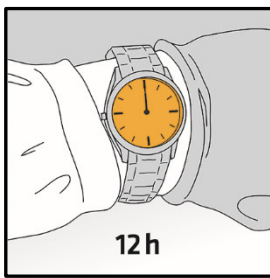
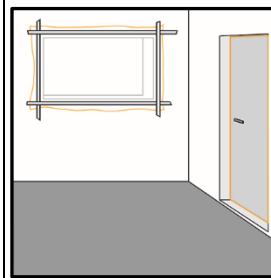
The individual Product Data Sheet shall prevail over this “Application Manual”.

All conditions stated in the individual Product Data Sheet regarding application, storage, etc. shall continue to apply.

APPLICATION STEPS

<h1>1</h1>	<p>If substrate is contaminated such as oil, grease etc. remove contaminates from metal surfaces with solvents such as Sika® Remover-208 or water-based cleaners.</p> <p>Note: Replace dirty rag frequently and dispose of it according to national regulations.</p>		
<h1>2</h1>	<p>Remove rust, loose paint and particles with a rotating handheld grinder from the substrate.</p> <p>Sweep bigger particles with a broom and dust with a vacuum cleaner.</p>		
<h1>3</h1>	<p>Only in case of zinc-rich primed metal or bare aluminum substrates: Apply SikaCor® ZP Primer with a long hair roller between the stiffeners or on the flat bulkhead cross rolled and let it dry.</p> <p>Flash off time SikaCor® ZP Primer (80µm) 10 °C – 5 hours, 20 °C – 3 hours, 30 °C – 2 hours</p> <p>Note: Consumption about 200 – 250 g/m²</p>		
<h1>4</h1>	<p>Use appropriate pin/stud welding machine for: Welding the stud bolts to the bulkhead</p>		
<h1>5</h1>	<p>Use appropriate welding gun for: Ceramic rings 16mm, Stud bolts m8 min 15mm Washers ø25mm with 8mm hole M8 nuts</p>		
<h1>6</h1>	<p>Mark the plates on the bulkhead, including cuttings. Mark the holes and the edges of the plates.</p> <p>IMPORTANT: The distance between the plates must not exceed 15 mm</p>		

<h1>7</h1>	<p>Make the cuttings and mark the plates, with a system so that you know where to fix them.</p> <p>IMPORTANT: Cut through the coating at the point where to fix the stud bolt, to get a good connection when welding the stud bolt.</p>												
<h1>8</h1>	<p>Weld the stud bolt in correct position within the marks.</p> <p>IMPORTANT: If required, clean with wire brush around the welded point and put anti corrosion paint around the stud bolt.</p>												
<h1>9</h1>	<p>Apply Sikafloor® Marine Primer C with a long hair roller between stiffeners / bolts or on the flat bulkhead and let it dry until milky bluish aspect has changed to transparent.</p> <p>Note: Consumption about 75 – 100 g/m² IMPORTANT: The maximum waiting time is 24 hours.</p>												
<h1>10</h1>	<table border="1" data-bbox="279 987 928 1162"> <thead> <tr> <th>Mixing paddle type 1</th> <th>Mixing paddle type 2</th> </tr> </thead> <tbody> <tr> <td>10-15 kg; Ø 100mm</td> <td>5-15 kg; Ø 90mm</td> </tr> <tr> <td>15-25 kg; Ø 120mm</td> <td>15-25 kg; Ø 120mm</td> </tr> <tr> <td>20-40 kg; Ø 140mm</td> <td>25-35 kg; Ø 150mm</td> </tr> <tr> <td>30-60 kg; Ø 160mm</td> <td>35-50 kg; Ø 160mm</td> </tr> </tbody> </table> <p>Mixer Type and diameter required to mix the defined volume Use the remaining water to adjust the consistency</p>	Mixing paddle type 1	Mixing paddle type 2	10-15 kg; Ø 100mm	5-15 kg; Ø 90mm	15-25 kg; Ø 120mm	15-25 kg; Ø 120mm	20-40 kg; Ø 140mm	25-35 kg; Ø 150mm	30-60 kg; Ø 160mm	35-50 kg; Ø 160mm		
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<h1>11</h1>	<p>Put the lower amount of the cold potable water in a bucket and add one bag of Sikafloor® Marine VEM X. Mix with mixing paddle (approx. 400 rpm) for about 5 minutes until a homogeneous mortar is obtained. Use the remaining water to adjust the consistency.</p> <p>Note: 16 kg bag ⇒ 4 – 4.6 liter of potable water</p>												
<h1>12</h1>	<p>Apply the Sikafloor® Marine VEM X, in between the stud bolts, with an appropriate notched trowel (square 4 x 4 mm or in triangular shape 5 x 5 mm). Ensure that the final layer (after installing the plates) is between 1 and 3 mm thick.</p> <p>IMPORTANT: Apply enough material to ensure a full wetting of the steel plates, do not apply Sikafloor® Marine VEM X to the stud bolts.</p>												

<h1>13</h1>	<p>Install the steel plates over the stud bolts on the wet Sikafloor® Marine VEM X, use adequate pressure to give the plates a good connection to the bulkhead. Fix the plates by slightly tightening the nuts by hand, make sure to have 1-3mm adhesive.</p> <p>IMPORTANT: Do not apply steel plates over welding seams. Do not tighten the nuts with power tool</p>		
<h1>14</h1>	<p>Alternative: Apply the Sikafloor® Marine VEM X on the plate and fix it afterwards to the bulkhead, use adequate pressure to give the plates a good connection to the bulkhead.</p> <p>IMPORTANT: Do not apply steel plates over welding seams. Do not tighten the nuts with power tool</p>		
<h1>15</h1>	<p>After 15 minutes tightening the nuts with adequate tool. Tightening of the nuts can be done with manual or power tool.</p>		
<h1>16</h1>	<p>Make sure to complete the application within the working time of 30 minutes.</p> <p>IMPORTANT: In case of temperature above 30 °C the working time will be reduced to 10 minutes or less.</p>	 <p>30 min</p>	 <p>10 min</p>
<h1>17</h1>	<p>After finishing application clean tools with water immediately after use.</p> <p>Note: Harden material can only be removed mechanically.</p>		
<h1>18</h1>	<p>Allow the application to cure for at least 12 hours.</p> <p>Protect the applied vertical acoustic system against freezing, direct heat / sunshine, and draught.</p>	 <p>12h</p>	

Disclaimer

The information contained herein and any other advice are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. The information only applies to the application(s) and product(s) expressly referred to herein. In case of changes in the parameters of the application, such as changes in substrates etc., or in case of a different application, consult Sika's Technical Service prior to using Sika products. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

Application manual

Sikafloor® Marine-VEM-steel-vertical-stud-bolt
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