BUILDING TRUST

PRODUCT DATA SHEET

Wabo® Finger Joint

Smooth riding expansion joint system

DESCRIPTION

Wabo® Finger Joint is designed for use in heavy traffic bridge structures. This system allows the bridge deck to move while maintaining a smooth and low noise-riding surface.
Wabo® Finger Joint is engineered to last longer than the bridge deck and can be used for new bridges or as a replacement joint alike.The system is easy and fast to install, using anchor bolts in one single operation.
The finger plates are cantilevered and are anchored on each side of the structural gap. The main movement of the Finger Joint is along the axis of the fingers themselves.
The fingers are sinusoidal in shape to allow the movement to take place, without posing any traffic hazard in the form of sharp tooth.

USES

- Sealing of joints on bridges and highways
- Movement up to 480 mm
- Skewed joints
- High impact and repetitive loading conditions
- New construction or repair and maintenance of existing joints

FEATURES

Durability
Wabo® Finger Joint is engineered to last longer than the bridge deck they protect. This is achieved by using high-grade material in a simple, yet robust design. The design is aimed at minimizing bolt shear offs using tension bolts, which is the most common type of failure for finger joints. High strength structural grade steel increases the life of finger plates under fatigue load due to traffic.

Corrosion Protection
Long term corrosion protection of steel is ensured by providing minimum 100-micron thick Hot Dip Zinc Galvanizing. Based on special project needs.

Waterproofness
The Reinforced EPDM membrane with gutter type connection allows run off water to drain through the bridge drainage outlet.

Finger Profile
The finger profile is sinusoidal which reduces the traffic hazard in case of differential settlement of decks. This particular profile is also non-hazardous for bicycle and motorbike wheels.

PRODUCT INFORMATION

Composition

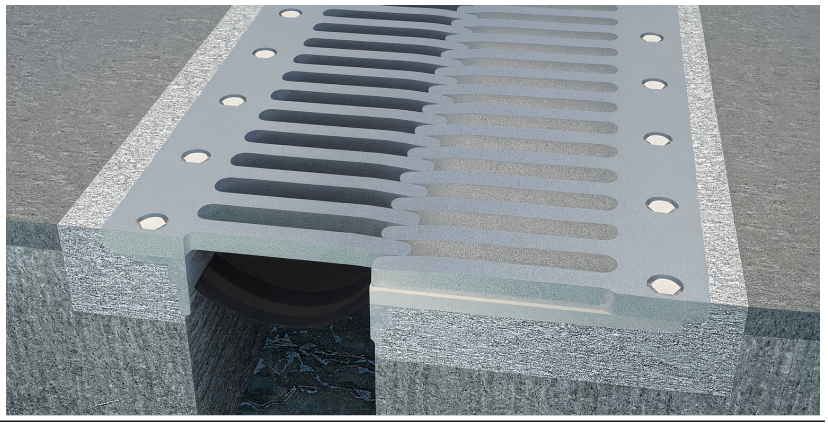
Finger Plates:
High Strength Q345 Grade Steel, ASTM A588 weathering grade steel or Stainless Steel are also provided on special requests.

Reinforced EPDM Sheets:
Produced from high quality grade EPDM rubber which can resist high temperature, UV radiation, Ozone, Chemicals and Abrasion from contaminant. The EPDM sheet is reinforced with high tensile polymer for longer durability.

Packaging

- Finger Plates are manufactured and supplied in standard panel length of 1 meter, the upturn panels are fabricated and supplied in maximum 1 meter panel.
- Both standard and upturn panels are packed on the same joint pallet.
- Reinforced EPDM Sheets are supplied with hole and supplied in continuous lengths and coiled on a pallet for shipping.
- Angle Bars are fabricated and supplied with Strip Bar in full length of joint.
- Anchor Rods are assembled with Nut, PVC, Anchor Disk and supplied in timber box.

Appearance and colour



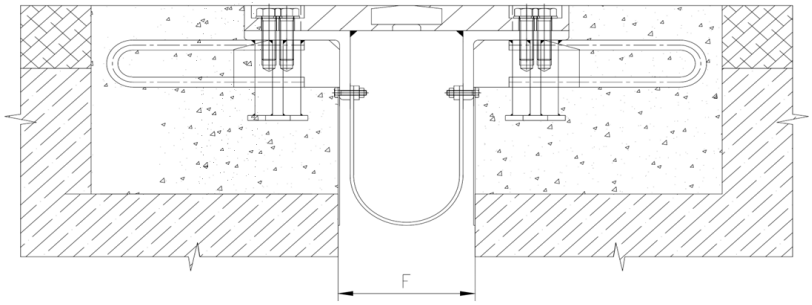
Shelf life

EPDM (Ethylene Propylene Diene Monomer): 24 months if stored in a cool, dry environment, protected from direct sunlight, UV radiation, ozone, and excessive humidity
Steel (ASTM A588 Weathering Grade or Q345 High Strength Structural Steel): No defined shelf life when stored under suitable dry conditions and protected from corrosion and environmental deterioration

Storage conditions

Store in a dry, clean and well-ventilated area, protected from prolonged exposure to moisture, condensation, aggressive chemicals and corrosive environments. Materials should be stored off the ground and protected against contamination and mechanical damage.

Cross section



TECHNICAL INFORMATION

Movement capability

Model Number	Total Movement (mm)	"F" Gap Width (Min/ Max mm)	Gap Width at Mid. Temp.(mm)
F-80	80	40/120	60
F-100	100	40/140	100
F-120	120	40/160	100
F-160	160	40/200	120
F-200	200	40/240	140
F-240	240	40/280	160
F-320	320	40/360	200
F-400	400	40/440	240
F-480	480	40/520	280
F-560	560	40/600	320
F-640	640	40/680	360
F-720	720	40/760	400
F-800	800	40/840	440

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

FURTHER DOCUMENTATION

- General Method Statement (GMS)
- Substrate preparation for Wabo® floor joints

IMPORTANT CONSIDERATIONS

- User is advised to wear gloves and eye protection when handling and instalation of Wabo® Finger Joint.
- Certified welder to be utilized for field welding of sections.
- We do not recommend using Wabo® Finger Joint under the condition where the joint will experience significant vertical or transverse movements.

ECOLOGY, HEALTH AND SAFETY

This product is an article as defined in article 3 of regulation (EC) No 1907/2006 (REACH). It contains no substances which are intended to be released from the article under normal or reasonably foreseeable conditions of use. A safety data sheet following article 31 of the same regulation is not needed to bring the product to the market, to transport or to use it. For safe use follow the instructions given in the product data sheet. Based on our current knowledge, this product does not contain SVHC (substances of very high concern) as listed in Annex XIV of the REACH regulation or on the candidate list published by the European Chemicals Agency in concentrations above 0,1 % (w/w).

APPLICATION INSTRUCTIONS

APPLICATION METHOD / TOOLS

- Reserve a roughened reset block-out as shown in drawing on both sides of deck.
- Plug the structural gap with wooden boards and fill the block-out with gravel. It is recommended that Asphalt be laid prior to installing Finger Joint to achieve smooth level.
- Lay Asphalt continuously over the structure including the movement joint area. Saw cut the surface at the edge of block out as shown on proposal drawing.
- Remove top layer of Asphalt over the joint block-out area and clean block-out thoroughly using pneumatic blower or pressurized water.
- Set alignment and lever of angle bar into position as shown on drawing. The level of angle bar must be reserved the thickness of finger plate. Fix the angle bar to the structural rebar by welding with short piece rebar.
- Make formwork by welding 2 mm thick steel sheet at the bottom of angle bar. This formwork requires no removal after installation.
- Fix rubber sheet to the angle using strip plate and tighten the stainless-steel nuts provided with the supply. Bolts are welded at the back of the angle.
- Place finger plate on top of angle bar and set the "F" gap. Tack weld the finger plates to avoid plate from moving when pouring concrete.
- Assemble the anchor bolt to the finger plate. The bolt position should be at full length of the threaded shank.
- Cast concrete in the block out ensuring anchor bolts remain vertical. Finish concrete at block out surface /finger plate with corner angled trowel.
- Tighten each anchor bolt using torque wrench at least 72 hours after concreting.
- Clean the joint from top, fill elastomeric sealant into the bolt hole cavity.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

LEGAL NOTES

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