

What s the best way to seal large bridge arch openings



Article Overview

Sealing large bridge arch openings is most effectively achieved through a combination of structural reinforcement, shotcrete or cast-in-place concrete, and high-performance joint sealants to ensure durability and waterproofing.

Structural Reinforcement and Section Enlargement

For large arches, the main arch ring is often eccentrically compressed, making section enlargement a key method. This involves roughening the surface, drilling and inserting rebar, and applying shotcrete or cast-in-place concrete to strengthen the arch and provide a solid base for sealing materials . In masonry arches, stainless steel reinforcement systems can be installed in a non-disruptive manner to enhance structural integrity while maintaining the arch's original appearance .

Joint Sealing and Waterproofing

To prevent water ingress and protect the structure from freeze-thaw cycles, high-performance sealants are essential. Silicone-based sealants, such as DOWSIL™ 888 or 890-SL, are ideal for expansion, construction, and crack-control joints. They provide flexibility, UV resistance, and accommodate thermal and structural movement, ensuring long-term waterproofing . For bridges with significant movement, elastomeric or neoprene compression seals, like Wabo® ElastoFlex or Evazote UV, can be mechanically locked into place to maintain a watertight barrier

Article Content

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How to Properly Caulk Large Gaps and Joints

Selecting the appropriate sealant is equally important, as standard acrylic latex caulk lacks the necessary movement

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Ohio Department of Transportation

Hier sollte eine Beschreibung angezeigt werden, diese Seite lässt dies jedoch nicht zu.

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Concrete Deck Preventative Maintenance

Preservation Deck seals and thin overlays Only requires short term traffic control. Inexpensive and very cost effective. Deck doesn't

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Bridge Maintenance and Preservation

WBA has a range of solutions and products for bridge maintenance and preservation. Browse our range of expansion joint products

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Wabo®FS Bridge Seal

Wabo®FS Bridge Seal is a pre-compressed foam supported silicone bridge joint system for bridge maintenance solutions designed

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Bridge Strip Seal Expansion Joint: Installation & Maintenance

Master the installation of bridge strip seal joints (0-80mm). Learn best practices for concrete nosing, edge beam

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Concrete Bridge Deck Sealing: Keeping Your Bridges Strong & Healthy

Have you sealed your concrete bridge deck with an approved PennDOT deck sealer? One of the largest causes of concrete deck

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Bridge Expansion Joint Sealants

Of the materials tested, seals of polyurethane and neoprene have shown the best results. The cast-in-place polyurethane seals, if

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Bridge Joint Repair: Solutions for Seal Failure & Cracking

Troubleshooting common bridge expansion joint problems: seal failure, water infiltration, and concrete cracks. Get

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Stone Arch Bridge Maintenance Manual

This document provides guidance on maintaining stone arch bridges. It details the typical components of stone arch bridges, such as

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How to Seal a Door: 15 Steps (with Pictures)

Gaps around your door allow air to pass through, creating drafts in your home. This will

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Breaking Down Essential Parts of a Bridge Structure

They absorb many of the forces placed on the bridge and act as retaining walls that prevent the earth

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Bridge Maintenance Manual

If the opening is too large, the seal will separate from the deck in cold weather and could fall out. If the opening is too

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How can I temporarily close an arched interior passageway?

I need to close an opening and I am not sure the best way to do it. The goals are Low cost Good sound insulation

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Methods for sealing bridge arch openings

Since the main arch ring is an eccentrically compressed member, the best approach is section enlargement — roughening the

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Bridge_FinalPrinterProof_2_28_16

All bridges experience thermal expansion and contraction as temperatures fluctuate, and require some way to allow

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The Key to Successful Repair: Understanding Failures

A Practical Example Perhaps the best way to demonstrate how the obvious problems can be caused by more subtle

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Joint Waterproofing

The full range of hydrophilic (swellable) SikaSwell® profiles, rings, and gun-applied sealants are an

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Installation of Watertight Expansion Joint Seals

Installation of Watertight Expansion Joint Seals NCDOTcommunications 12.2K

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Bridge Expansion Joint Types: Selection Guide for Engineers

Compression seals are the lowest cost, longest lived option for movement under about 2 inches when the joint

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Bridge Joint Maintenance

The best products, when placed with strict quality controls, tend to remain watertight a maximum of two years. In many situations,

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Concrete Arch Bridges

Early concrete arch bridges were governed by building traditions of their predecessor, the stone arch. They were shaped as

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Sika Bridge Solutions

From precision epoxy grouts to versatile cementitious grouts, Sika offers a full range of products with extremely high strengths and

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BRIDGE MAINTENANCE AND REPAIR HANDBOOK

Currently the compression seal is most often used to upgrade the poured-in-place seals commonly found on older bridges.

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Methods for sealing bridge arch openings

Methods for sealing bridge arch openings Overview Since the main arch ring is an eccentrically compressed member, the best

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Highways, Roads and Bridges | Dow Inc.

Construction sealants from Dow are ideal for joints in highway and bridge applications such as expansion,

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Bridge Deck Joint Sealant

Bridge Deck Joint Sealant bonds to a variety of materials including concrete, steel, plastics, fiberglass, and wood. Bridge Deck Joint

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PENNDOT STONE ARCH BRIDGE MAINTENANCE MANUAL

Stone arch bridge technology represents the earliest extant bridge type in the Commonwealth. The time-tested technology was used

Contact Us

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