



WATERPROOFING SikaFuko® INJECTION HOSE SYSTEMS

UNIQUE WATERPROOFING SOLUTIONS FOR CONSTRUCTION JOINTS

**BUILDING TRUST
CONSTRUIRE LA CONFIANCE**



SikaFuko® – PROVEN INJECTION HOSE SYSTEMS



INTRODUCTION

SikaFuko® is a range of specially designed, hollow-core, PVC injection hose systems. These are installed into concrete construction joints, the connections between structures and as additional security to waterstops to seal and waterproof any cracks or voids in those locations. SikaFuko® systems seal joints and other details so that they are watertight and they also provide a complete maintenance solution should any leaks occur in the future. With Sika® injection products based upon acrylics and micro-cement suspensions, the VT hoses can be re-injected on multiple occasions – a significant advantage over other injection hose systems.

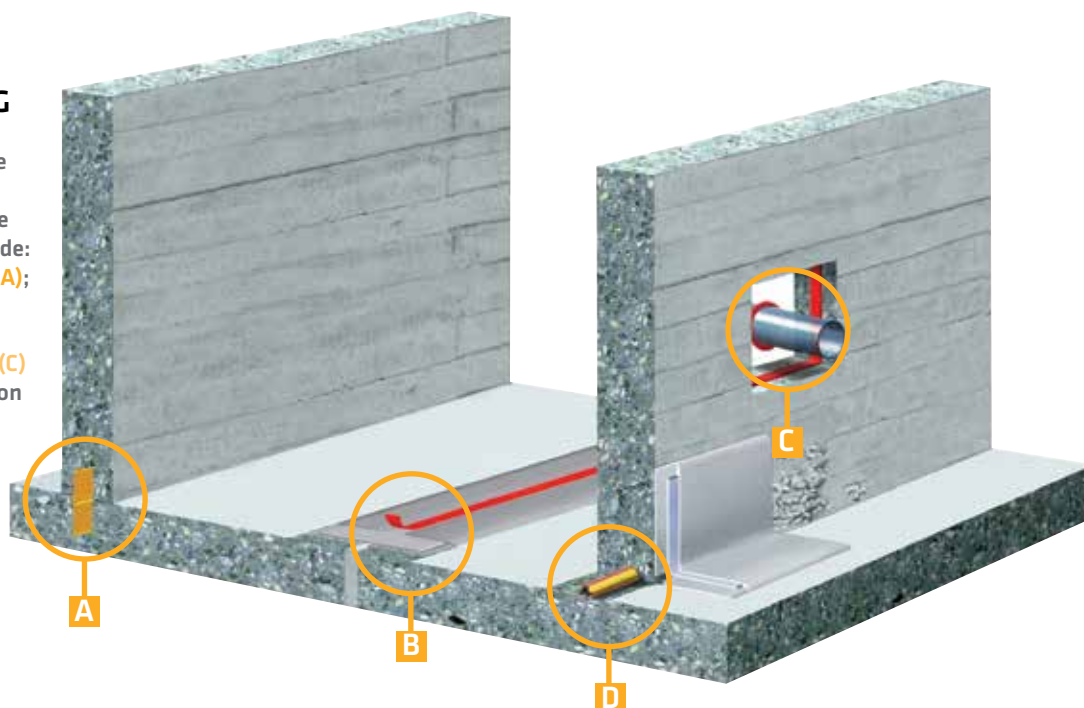
Developing the SikaFuko® VT re-injectable hose system was a logical step forward in improving waterstopping technology and utilizing this state-of-the-art solution allows 'zero leak tolerance' in important structures. It provides a unique solution and can be used where other waterproofing systems cannot even be installed. The SikaFuko® range includes different types and dimensions of injection hose, with easy, safe and fast installation, simplifying the work on site and ensuring watertight joints. SikaFuko® injection hoses can be installed in very difficult working environments and normally without any additional works or changes in the design or fixing of reinforcement or formwork.

KEY ADVANTAGES

- 20 years of international references
- Exclusive 'valve' design of VT version allows re-injection
- Suitable for a wide range of injection materials
- Cost effective and high performance waterproofing
- Can be used in complex and demanding situations
- Split-forming not needed and no additional formwork or reinforcement required
- Simply and safely injected with water to test watertightness
- Ideal support system in combination with waterstops
- Provide secure solutions for critical applications

JOINT WATERPROOFING

Sika Canada provides a complete range of joint and crack waterproofing systems to ensure the control of water. These include: Sika® Greenstreak® waterstops (A); Sikadur® Combiflex SG epoxy bonded strips (B); SikaSwell® hydrophilic profiles and sealants (C) and of course, SikaFuko® injection hose technologies (D).



SikaFuko® – PROVEN WATERPROOFING APPLICATIONS



BASEMENTS

SikaFuko® provides easy and cost effective joint sealing for basement or below-grade waterproofing. It seals common, difficult and complex details as part of new-build or renovation.



INFRASTRUCTURE

On infrastructure projects, such as tunnels, bridges, culverts and structures, SikaFuko® systems represent an easy- to-install, cost-effective and watertight method of sealing joints. They can also be employed as secondary security in combination with waterstops.



WATER TANKS

In water tanks and other water retaining or treatment structures, SikaFuko® systems provide a high level of confidence. The possibilities offered through the use of the differing Sika injection products, ensures that virtually all applications are catered for and even under difficult conditions, high performance is achieved.



INDUSTRIAL BUILDINGS

Operating with a range of chemically resistant Sika injection resins, SikaFuko® systems provide high quality waterproofing within many types of different industrial production and processing facilities.



REFURBISHMENT

SikaFuko® systems can be installed on very uneven surfaces and can therefore be used to seal joints in damaged concrete structures. As a result SikaFuko® systems are ideal and widely used in renovation projects.



CONSTRUCTION JOINTS

SikaFuko® systems provide highly cost effective joint sealing for virtually every type of concrete construction joint, including those that are complex and difficult to access, where SikaFuko® hoses can often be the easiest and most secure method of joint sealing.



ADDITIONAL SECURITY TO WATERSTOPS

SikaFuko® systems are also important as support for other methods of sealing, particularly in combination with waterbars or waterstops. SikaFuko® injection hoses ensure that any poorly compacted concrete or leaks coming from failed waterstops at joints, can easily be sealed with Sika injection products.



CONNECTIONS TO EXISTING STRUCTURES

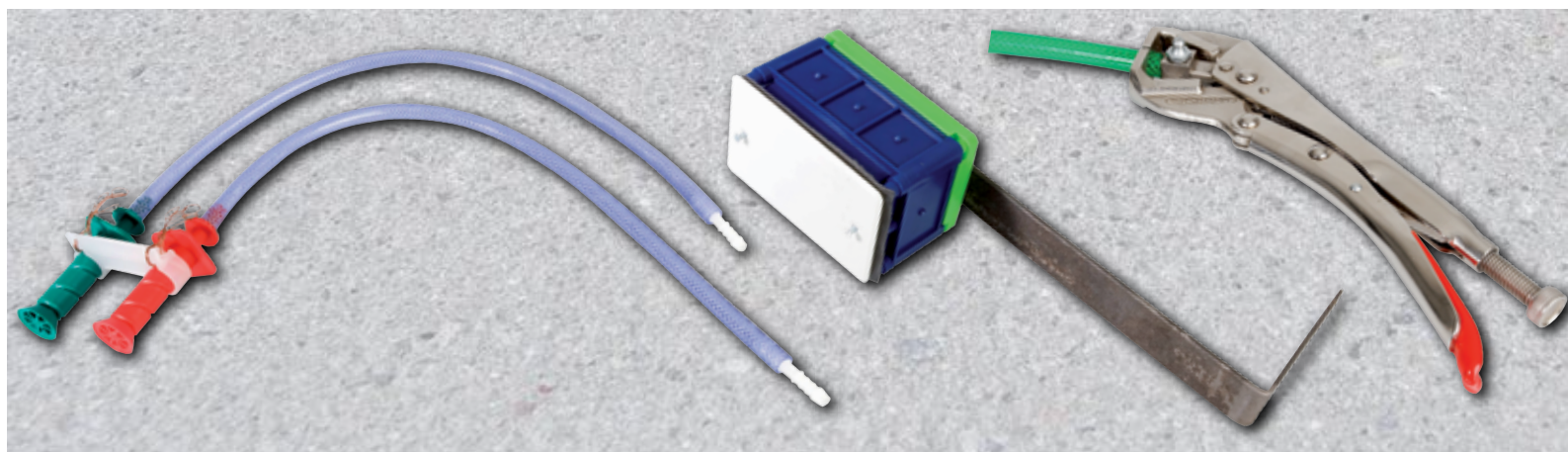
Where expansion of a facility is to take place and the connection between old and new is critical, SikaFuko® systems provide the ideal solution for the joint. As the systems can be installed on rough and uneven surfaces, they can easily seal any inadequate concrete or other defects in these areas.



SPECIAL APPLICATIONS

The SikaFuko® systems can also be used for many other sealing applications requiring just the injection of the joints or even the whole area around the joints. They are extremely versatile and can be installed onto many different substrates in addition to concrete, including stone, metals, plastics etc.

SikaFuko® – COMPLETE INJECTION SYSTEM



SikaFuko® VT-1 and VT-2



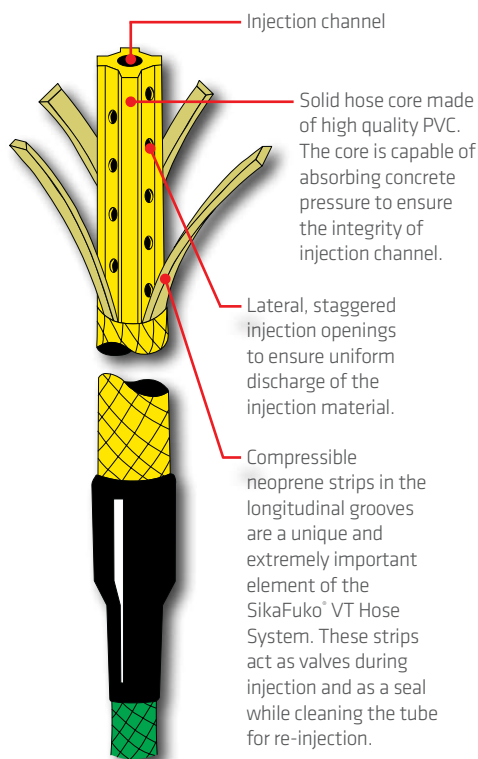
This unique valve technology has now been in use for more than 20 years. Many important structures around the world have been sealed with this system and it is the leading re-injectable hose for use in many difficult situations. Its benefits include:

- Global track record of success
- Standalone sealing or re-injectable
- Easy and fast to install

Hose Specification

Strong yet flexible, PVC-based hose with compressible neoprene strips housed in grooves and covering staggered perforations to the hollow core, all encased in a webbed mesh. This creates an innovative, unique and very much effective joint waterproofing system.

Shape: Round
Internal Ø: VT-1: 6 mm (1/4 in)
VT-2: 10 mm (3/8 in);
External Ø: VT-1: 13,5 mm (9/16 in)
VT-2: 24 mm (15/16 in)



SikaFuko® Eco-1



This is the most economic version of the SikaFuko® injection hoses with a simple but reliable design. Its flexibility allows easy and rapid installation. It is often used as secondary support for other joint sealing systems such as waterstops: Its benefits include:

- Suitable for planned, single injection
- Easy and rapid installation
- Ideal for back-up security

Hose Specification

Spiral-cut injection channelled, PVC-based, hollow-core hose, wrapped within foam jacket with staggered perforations for the Sika® injection material to pass through and out into the joint.

Shape: Round
Internal Ø: 6 mm (1/4 in)
External Ø: 12,7 mm (1/2 in)

SIKA® INJECTION SYSTEM SELECTION GUIDE

Injection Materials	SikaFuko® VT-1	SikaFuko® VT-2	SikaFuko® Eco-1
Sikadur® Epoxies	Single injection	Single injection	Single injection
SikaFix® Polyurethanes	Single injection	Single injection	Single injection
Sika® Injection Acrylics	Multiple injection	Multiple injection	Single injection
Sika® Injectocem Micro-cements	Multiple injection	Multiple injection	Single injection

SikaFuko® – EQUIPMENT AND INJECTION



PRACTICAL ON-SITE SOLUTIONS

In order to provide a complete package of solutions, a full range of tried and tested accessories has been developed around SikaFuko®. To meet the challenges of jobsites, key components such as options for hose types and sizes, alternative means for fixing and differing forms of injection materials and equipment, are all available to select from.

The fast, easy installation and safe handling of the SikaFuko® injection hose systems is based on having these accessories available. They include:

- Vent-ends and connecting pieces for easy assembly
- Different fixings and fixing methods for differing installation conditions.
- Alternative solutions for the location and installation the vent-ends.
- Efficient equipment, including injection pumps, vacuum pumps (for multiple-injection work) and connections for such.
- Sika® injection materials– an extensive range of products ranging from acrylic resins and microfine cements for re-injection and polyurethane or epoxy resins for single injection works.



Junction boxes for easy connectivity to hoses

UNIQUE MULTIPLE INJECTION / RE-INJECTION TECHNOLOGY

With water dispersed and flushable injection materials, such as acrylic resins or microfine cement suspensions, the VT injection hoses can be cleaned after the injection and then injected again immediately or at a later date.

This ability to install, inject, monitor and then re-inject, should conditions change and leaks require re-sealing, provides a very high level of security. Owners and operators of structures can be confident that they have the means to address any future needs.

The process by which the VT hoses are contained within the concrete, initial injection is carried out, the hose is then cleaned and are then suitable for re-injection at a later date, is explained in the following 4 phases.

■ Phase 1: Concrete Pour

When the concrete is placed around the SikaFuko® VT hose, the external pressure of the concrete closes the neoprene strips over the injection openings, sealing them while the injection channel remains clear.



■ Phase 2: Initial Injection

When the internal injection pressure is applied in the hose, it compresses the neoprene strips and allows the injection material to flow out from the staggered perforations and through the longitudinal grooves. This controlled action ensures a uniform discharge of the injection material as required along the full length of the hose.



■ Phase 3: Hose Cleaning

When using a suitable Sika® injection material, SikaFuko® VT hoses are easily flushed clean with water, using vacuum pressure. This negative pressure also reseats the neoprene strips, preventing any injected material from being drawn back into the hose.



■ Phase 4: Future Injection

The SikaFuko® VT hose injection system is ready for re-injection, if and when it is needed.



SikaFuko® Systems – INSTALLATION AND INJECTION

SikaFuko® systems are designed to be fast and easy to use on site and versatile in accommodating many different applications and environmental conditions. The complete range of hoses, injection materials, accessories, tools and equipment ensures that successful, joint waterproofing solutions are available for wherever they are required.



Fast and easy installation



Mixing of an acrylic injection resin



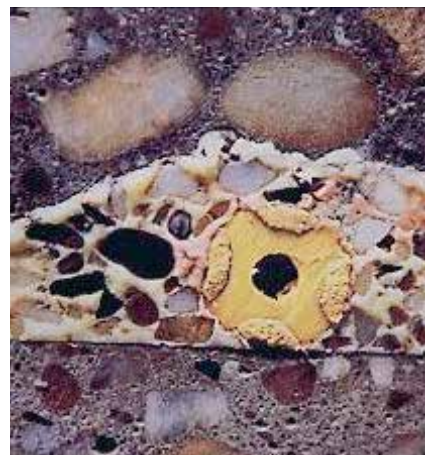
Complete package of accessories



Simple injection process on site



Secondary security to waterstops



Joint waterproofed and sealed

SikaFuko® – INTERNATIONAL CASE STUDIES



ROLEX SA

Rue Francois-Dussaud Les
Acacias, Switzerland

Project Description:

Basement for prestige watch manufacturer.
Construction period: 2004 – 2005.

Project Requirements:

Watertight concrete construction, with
increased security in sealing the
construction joints.

Sika Solution:

Sealing of 2400 linear meters (7800 linear
feet) of construction joints in a watertight
concrete structure, using SikaFuko®
reinjectable hose system.

“PASAZ GRUNWALDZKI”

Centre commercial,
Breslau, Pologne

Project Description:

Major, mixed-use development around
modern retail development, to greatly
improve the area and make it attractive as
a shopping destination.
Construction period: 2005 – 2006.

Project Requirements:

Effective watertight sealing of
construction joints in the basement.

Sika Solution:

Approximately 5000 linear meters of
construction joints sealed with the
SikaFuko® VT 1 injection hose system.

PONT FERROVIAIRE

Halberstadt,
Allemagne

Project Description:

Large, new railway bridge as part of
infrastructure improvements in Halberstadt
region.
Construction period: 2004.

Project Requirements:

Special application to meet the engineers
requirements for sealing between steel
structure and its concrete substructure.

Sika Solution:

Sealing of transition from steel to concrete
structure with the SikaFuko® Eco 1 injection
hose system with special fixings to attach
hoses to the steelwork.

SIKA SOLUTIONS FROM ROOF TO FOUNDATIONS

Roofing Systems



Sarnafil®
Sikaplan®
Sikalastic®

Concrete Production



Sika® ViscoCrete®
Sika® Retarder®
Sika® AER^{CA}

Joint Sealing



Sikaflex®
Sikasil®
Sikadur® Combiflex

Grouting and Anchoring



SikaGrout®
Sikadur®
Sika AnchorFix®

Concrete Repair & Protection



Sika® MonoTop®
SikaTop®, SikaRepair®
Sikagard®

Structural Strengthening



Sikadur®, Sika® CarboDur®
SikaWrap®
Sika® CarboShear

Floor & Wall Systems



Sikafloor®
Sikagard®
Sikagard® Duroplast

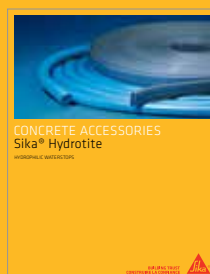
Waterproofing Systems



SikaProof®, SikaFuko®
Sika® Greenstreak®
SikaSwell®, SikaFix®

Sika Canada Inc., a member of the Sika Group, is a leader in the field of speciality chemicals, for construction and manufacturing industries. Our product lines feature high quality roofing systems, concrete admixtures, mortars and resins, sealants and adhesives, structural strengthening components, industrial and decorative flooring, as well as protective coatings and waterproofing systems. Our expertise is borne out of a global presence and served by strong, local support. Sika has earned the trust of our industries for over 100 years, by delivering the highest standards of commitment and partnership.

Also Available:



The information, and in particular, the recommendations relating to the application and end-use of Sika products, 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, within their shelf life. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any recommendations, or from any other advice offered. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users should always refer to the most recent issue of the Product Data Sheet for the product concerned, copies of which will be supplied on request or can be accessed in the Internet under www.sika.ca.

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