SHOP DRAWING REVIEW FORM AND TRANSMITTAL

DATE: **November 4, 2021**

TO: Carl Hendrickson
Project Manager
Veolia Water
825 West Water Street
Taunton, MA 02780

FROM: Michael Andrus, P.E.
Project Manager
BETA Group, Inc.
701 George Washington Hwy
Lincoln, Rhode Island 02865

RE: City of Taunton, MA
WWTF Phase 1 Improvements
Contract S-2021-1

Shop Drawing No. 03252-01 – REV 0 – Waterstop

BETA COMMENTS:

Item	Action Code	Description/Comments
1	**1**	**Waterstop (Sika)**

Action Codes
1 - No Exception Taken
2 - Make Corrections Noted
3 - Amend and Resubmit
4 - Rejected, See Remarks

a. Installation shall proceed only when Action Code is '1' or '2'.
b. Submittals action coded '3' shall be resubmitted within time limit set in Contract.
c. Review does not relieve Contractor from responsibility of compliance with the Contract Documents.

Hart Engineering Corporation

SUBMITTAL: 03252-01

PROJECT: 9900. - Veolia/Taunton WWTF Phase 1 Improvements **DATE: 10/15/2021**

SUBMITTAL: 03252-01 - Waterstop
REVISION: 0
STATUS: Eng
SPEC #: 03252

TO:
Michael Andrus
Beta Group Inc.
6 Blackstone Place
Lincoln, RI 02865
MAndrus@BETA-Inc.com

FROM:
Ryan Murphy
Hart Engineering Corporation
800 Scenic View Drive
Cumberland, RI 02864
rmurphy@hartcompanies.com

Item	Revision	Description	Status	Date Sent	Date Returned
03252-01	0	Waterstop	Eng	10/15/2021	
Notes:					

SHOP DRAWING REVIEW

☑ 1 – Approved ☐ 2 – Approved as Noted

☐ 3 – Revise and Resubmit ☐ 4 - Rejected

☐ 5 – Record File Only – No Action Taken

(Above Check Designates Action Code – See Review Comments)

IMPORTANT NOTE FOR CONTRACTOR

Review is only for general compliance with the design concept and information provided in Contract Documents. Corrections and comments made on the Shop Drawings during review do not relieve the Contractor from compliance with the requirements of the plans and specifications. Review and/or approval of a specific item shall not include review or approval of an assembly of which the item is a component. No approval or correction of a Shop Drawing shall be construed as an order for extra work. The Contractor is responsible for: all quantities and dimensions to be confirmed and correlated; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of the Work with that of all trades and subcontractors; and performing all Work in a safe and satisfactory manner.

BETA GROUP, INC. Checked By: TW

By: Derek Wong Date: 2021.11.04

Additional Notes:

Status Codes
1-APP – No Exceptions Taken
2-ANR – Make Corrections Noted
3-R&R – Revise and Resubmit
4-REJ – Rejected
5-IPO – For Information Purposes Only
6-NRR – Not Required for Review
ENG – Submitted to Engineer

Sincerely,
Hart Engineering Corporation

DATE: 10/15/2021

Jeremy Boulay
m) 7744068152
o) 4014344300
jboulay@csi-ri.com

Contractors Supply Inc.
3340 Pawtucket Ave
East Providence, RI
02915
United States

Project Name	Taunton WWTP - Phase I

Package Name	03 25 20, v01	Due Date	13 Oct 2021
Revision #	1	Need By Date	13 Oct 2021
Package type	For approval		
	Full submittal		

03 25 20

#	Sub-section	Item Specified	Source or Mfr	Item Submitted	Notes
0004	2.01.A.	PVC Waterstop view spec	Sika	**Greenstreak® PVC Waterstop** Greenstreak-PVC-Waterstop-SDS-1852674.PDF Greenstreak-PVC-Waterstop-Summary-Brochure-1858062.pdf GSK732.pdf GSK735.pdf Greenstreak General PVC Spec.pdf	
0005	2.01.B.5.a	Hydrophilic Rubber Waterstop view spec	Sika	**Sika® Hydrotite® (formerly Greenstreak)** Sika-Hydrotite-formerly-Greenstreak-Product-Data-1853639.pdf Sika-Hydrotite-formerly-Greenstreak-SDS-1853650.PDF Sika-Hydrotite-formerly-Greenstreak-Installation-Instructions-1853652.PDF Sika-Hydrotite-formerly-Greenstreak-Installation-Instructions-1853651.PDF Sika-Hydrotite-formerly-Greenstreak-Installation-Instructions-1853640.PDF	
0006	2.01.B.5.b.	Hydrophilic Sealant view spec	Sika	**Hydrotite Adhesive** Hydrotite-Adhesive-Product-Data-1849230.PDF Hydrotite-Adhesive-SDS-1852675.PDF	

Section:	03 25 20
#:	0004
Specified:	2.01.A., PVC Waterstop
Reference:	view spec
Item submitted:	Greenstreak® PVC Waterstop

Greenstreak-PVC-Waterstop-SDS-1852674.PDF
Greenstreak-PVC-Waterstop-Summary-Brochure-1858062.pdf
GSK732.pdf
GSK735.pdf
Greenstreak General PVC Spec.pdf

1. Identification

Product name	:	Greenstreak® PVC Waterstop
Supplier	:	Sika Corporation 201 Polito Avenue Lyndhurst, NJ 07071 USA www.sikausa.com
Telephone	:	(201) 933-8800
Telefax	:	(201) 804-1076
E-mail address	:	ehs@sika-corp.com
Emergency telephone	:	CHEMTREC: 800-424-9300 INTERNATIONAL: 703-527-3887
Recommended use of the chemical and restrictions on use	:	For further information, refer to product data sheet.

2. Hazards identification

GHS Classification

Not a hazardous substance or mixture.

GHS Label element

Not a hazardous substance or mixture.

See Section 11 for more detailed information on health effects and symptoms.
There are no hazards not otherwise classified that have been identified during the classification process.
There are no ingredients with unknown acute toxicity used in a mixture at a concentration >= 1%.

3. Composition/information on ingredients

Hazardous ingredients

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

If inhaled	:	Move to fresh air.

In case of skin contact	:	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water.
In case of eye contact	:	Flush eyes with water as a precaution. Remove contact lenses. Keep eye wide open while rinsing.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	No known significant effects or hazards. See Section 11 for more detailed information on health effects and symptoms.
Protection of first-aiders	:	No hazards which require special first aid measures.
Notes to physician	:	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific extinguishing methods	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	:	Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Keep in suitable, closed containers for disposal.

7. Handling and storage

Advice on safe handling	:	For personal protection see section 8. No special handling advice required. Follow standard hygiene measures when handling chemical products.

Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Store in accordance with local regulations.
Materials to avoid	:	No data available

8. Exposure controls/personal protection

Contains no substances with occupational exposure limit values.

Engineering measures : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protective equipment

Respiratory protection : Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection
Remarks : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hygiene measures : Wash hands before breaks and immediately after handling the product.
Remove contaminated clothing and protective equipment before entering eating areas.
Avoid breathing dust.

9. Physical and chemical properties

Appearance	:	film
Color	:	blue

Odor	:	characteristic
Odor Threshold	:	No data available
Flash point	:	Note: Not applicable
Ignition temperature	:	No data available
Decomposition temperature	:	No data available
Lower explosion limit (Vol%)	:	No data available
Upper explosion limit (Vol%)	:	No data available
Flammability (solid, gas)	:	No data available
Oxidizing properties	:	No data available
pH	:	Note: Not applicable
Melting point/range / Freezing point	:	No data available
Boiling point/boiling range	:	No data available
Vapor pressure	:	No data available
Density	:	1.36 g/cm3
Water solubility	:	Note: insoluble
Partition coefficient: n-octanol/water	:	No data available
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Relative vapor density	:	No data available
Evaporation rate	:	No data available
Burning rate	:	No data available
Volatile organic compounds (VOC) content	:	0 g/l

10. Stability and reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	No data available

Incompatible materials : No data available

11. Toxicological information

Not classified based on available information.

Skin corrosion/irritation

Not classified based on available information.

Serious eye damage/eye irritation

Not classified based on available information.

Respiratory or skin sensitization

Skin sensitization: Not classified based on available information.
Respiratory sensitization: Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

IARC	Not applicable
NTP	Not applicable

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

12. Ecological information

Other information Do not empty into drains; dispose of this material and its container in a safe way.

13. Disposal considerations

Disposal methods

Waste from residues : Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT
Not dangerous goods
IATA
Not dangerous goods
IMDG
Not dangerous goods

Special precautions for user
No data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

15. Regulatory information

TSCA list : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : No SARA Hazards

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

Ozone-Depletion Potential This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65 WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

16. Other information

HMIS Classification

Health	1
Flammability	0
Physical Hazard	0
Personal Protection	X

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Notes to Reader

The information contained in this Safety Data Sheet applies only to the actual Sika Corporation ("Sika") product identified and described herein. This information is not intended to address, nor does it address the use or application of the identified Sika product in combination with any other material, product or process. All of the information set forth herein is based on technical data regarding the identified product that Sika believes to be reliable as of the date hereof. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's current Product Data Sheet, product label and Safety Data Sheet for each Sika product, which are available at web site and/or telephone number listed in Section 1 of this SDS.

SIKA MAKES NO WARRANTIES EXPRESS OR IMPLIED AND ASSUMES NO LIABILITY ARISING FROM THIS INFORMATION OR ITS USE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES AND SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.

All sales of Sika products are subject to its current terms and conditions of sale available at www.sikausa.com or 201-933-8800.

Revision Date 02/09/2016

Material number: 446509

WATERPROOFING
Sika® Greenstreak® PVC WATERSTOPS

Greenstreak BUILDING TRUST

Sika® Greenstreak® PVC WATERSTOPS

As an industry pioneer and one of the first manufacturer's of polyvinyl chloride (PVC) waterstop Sika® Greenstreak® provides you with the highest quality and most specified waterstop brand on the market. Sika® Greenstreak®'s PVC waterstop has always been made from a proprietary formula that is self-compounded and only produced from prime virgin materials.

PVC is the industry standard for flexible waterstops, which are typically embedded across and along the joint. PVC is the most versatile waterstop material, offering the broadest design selection and is accepted under the ACI 350 "Code Requirements for Environmental Engineering Concrete Structures". It has great inherent elasticity and is resistant to many waterborne chemicals. It will not discolor concrete or produce electrolytic action.

PHYSICAL PROPERTIES

All Sika® Greenstreak® PVC waterstops are specially formulated and manufactured to meet or exceed industry standard product specifications.

Sika® Greenstreak® PVC Waterstops		
Property	Test	Value
Water absorption	ASTM D570	0.15% max.
Tear resistance	ASTM D624	300 lb/in min.
Ultimate elongation	ASTM D638	350% min.
Tensile strength	ASTM D638	2000 psi min.
Low temperature brittleness	ASTM D746	Passes @ -35°F / -37°C
Stiffness in flexure	ASTM D747	700 psi min.
Specific gravity	ASTM D792	1.38 max.
Hardness Shore A15	ASTM D2240	79±3
Accelerated extraction -Tensile strength -Elongation	Corps of Engineers	 1600 psi min. 300% min.
Effect of Alkali -Weight change -Hardness change	CRD-C 572	 +0.25% -0.10% +/-5 points

SIKA CONDUCTS REGULAR TESTING OF MATERIALS.

Independent laboratory tests are available for the following applicable standards:

- Corps of Engineers CRD-C 572-74
- Bureau of Reclamation
- CH2M HILL
- MWH
- Various State Highway and/or Public Works Department Standards

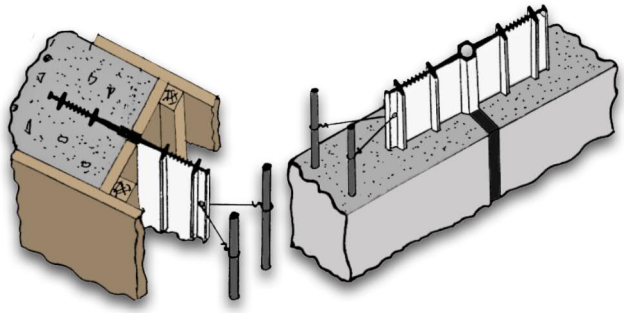
CHOOSING THE RIGHT WATERSTOP

WATERSTOP BASIC USE

Embedded in concrete, across and/or along the joint, waterstops form a watertight diaphragm that prevents the passage of liquid through the joint.

Offering a variety of solutions across all categories of waterstops, Sika has the knowledge and time tested products to meet the most demanding applications.

- Water/Waste Water Treatment Plants
- Lock and Dam Systems
- Reservoirs and Aqueducts
- Flood Walls
- Retaining Walls
- Foundations
- Tunnels and Culverts
- Bridge Abutments
- Containment Structures and Tanks
- Slabs-on-Ground



When you specify Sika® Greenstreak®, you are specifying THE first name in waterstops and the trusted source for superior technical and customer service.

SUGGESTED WATERSTOP DESIGN CHECKLIST

- Verify chemical containment requirements, if any
- Verify hydrostatic head pressure requirements
- Determine joint type and joint movement requirements
- Specify material type for best water sealing performance
- Specify profile and size (by product number, if possible)
- Verify joinery details of dissimilar or asymmetric waterstop profiles, if any (consider using one profile throughout to simplify intersections)
- Specify factory fabrications and fittings for transitions and intersections
- Specify appropriate method for securing waterstop in position (see Sika® Greenstreak® CSI-formatted product specifications for additional guidance)

All Sika® PVC and TPER waterstop profiles are NSF-61 Certified.

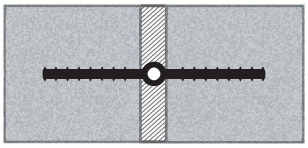
NSF®

Certified to NSF/ANSI 61

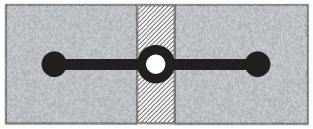
MOVING AND NON-MOVING JOINTS

SELECTING A WATERSTOP SHAPE

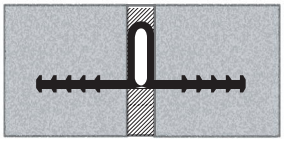
MOVEMENT JOINTS are typically designed to accommodate significant movement due to drying shrinkage, temperature changes, settlement, creep, or live load deflections. The waterstop profile selected must have the ability to accommodate expected joint movement, typically achieved through the use of a centerbulb, tear web, or other suitable waterstop geometry designed to accommodate joint movement. Movement joints typically include contraction joints, expansion joints, and isolation joints. The following profiles are suitable for movement joints:



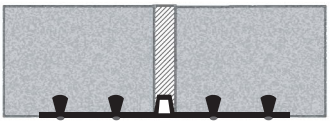
Ribbed with Centerbulb shapes are the most versatile and best sealing type of waterstops available. The centerbulb accommodates lateral, transverse, and shear movement. Larger centerbulbs will accommodate greater movement.



Dumbbell with Centerbulb shapes accommodate lateral, transverse, and shear movement. Larger centerbulbs will accommodate greater movement. Consider using Ribbed with Centerbulb for better sealing characteristics.

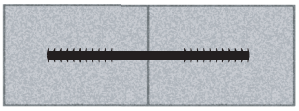


Tear Web shapes accommodate large movements. When joint movement occurs, the tear web ruptures and allows the U-bulb to deform without placing the material in tension.

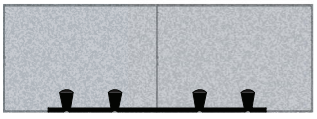


Base Seal with Tear Web shapes accommodate lateral, transverse, and shear movement. Larger tear web bulbs will accommodate greater movement. Base Seal waterstops have some limitations with transitions and intersections.

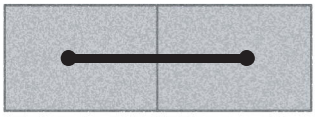
NON-MOVING JOINTS typically have 100% of the bonded steel reinforcement continuous through the joint, and expose the waterstop to negligible or no movement. Flat waterstop profiles without a centerbulb or tear web are suitable for non-moving joints. Other waterstop materials may be considered for non-moving joints as well, such as strip-applied or injectable hose waterstops. Examples of waterstop profiles suitable for non-moving joints are as follows:



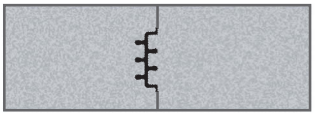
Flat Ribbed shapes are preferred for non-moving joints and provide the best sealing characteristics.



Base Seal is ideal for slab-on-grade joints or backfilled walls and are easy to form. Base Seal waterstops have some limitations with transitions and intersections.

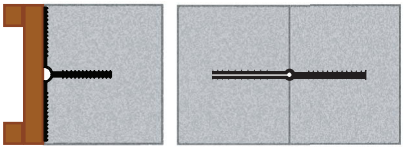


Dumbbell shapes are an alternate profile for non-moving joints. Consider ribbed shapes for better sealing characteristics.

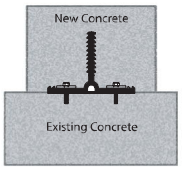


Labyrinth is primarily used in vertical joints. Labyrinth shapes create a keyed joint and do not require split bulkheads. Labyrinth can be difficult to use in horizontal joints and there are some limitations with transitions and intersections.

Split Flange shapes can simplify forming. The split flange is opened and attached to the bulkhead for placement of the first concrete element. After stripping the bulkhead, the flange is closed and anchored for placement of the adjoining element. Split waterstops are suitable for straight runs only. Transitions and intersections are not practical with these profiles.



Retrofit Waterstops seal joints where new construction meets an existing structure and can be suitable for moving joints. Systems include stainless steel batten bars and fasteners for anchoring to the existing structure with the aid of a structural epoxy gel.

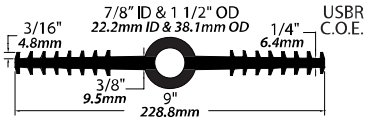


PROJECT PROFILES AND SIZES

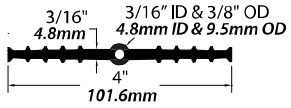
SHAPES ARE DRAWN TO VARYING SCALES

RIBBED CENTERBULB

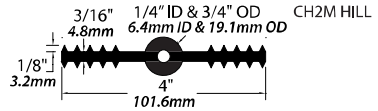
NO.	STD. WT.	HEAD PRESS.
696	2.65 lb/ft (3.94 kg/m)	175' (523 KPa)



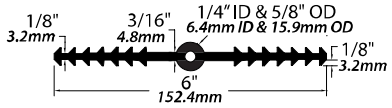
NO.	STD. WT.	HEAD PRESS.
701	0.42 lb/ft (0.63 kg/m)	65' (194 KPa)



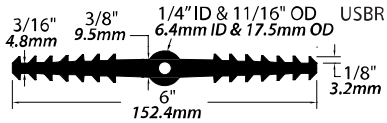
NO.	STD. WT.	HEAD PRESS.
702	0.74 lb/ft (1.10 kg/m)	65' (194 KPa)



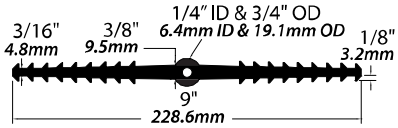
NO.	STD. WT.	HEAD PRESS.
703	0.73 lb/ft (1.09 kg/m)	100' (299 KPa)



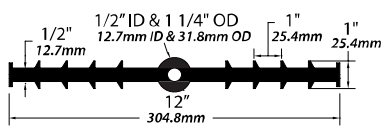
NO.	STD. WT.	HEAD PRESS.
705	1.19 lb/ft (1.77 kg/m)	125' (373 KPa)



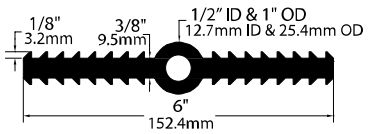
NO.	STD. WT.	HEAD PRESS.
709	1.63 lb/ft (2.43 kg/m)	175' (523 KPa)



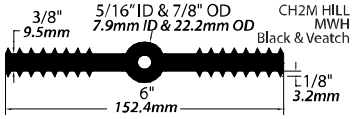
NO.	STD. WT.	HEAD PRESS.
712	4.38 lb/ft (6.52 kg/m)	225' (672 KPa)



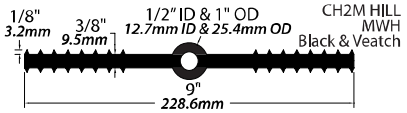
NO.	STD. WT.	HEAD PRESS.
717	1.52 lb/ft (2.26 kg/m)	125' (373 KPa)



NO.	STD. WT.	HEAD PRESS.
732	1.60 lb/ft (2.38 kg/m)	125' (373 KPa)

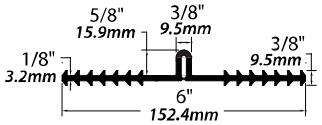


NO.	STD. WT.	HEAD PRESS.
735	2.45 lb/ft (3.65 Kg/m)	175' (523 KPa)

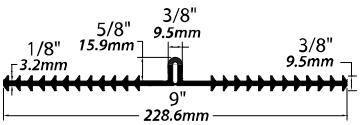


RIBBED TEAR WEB

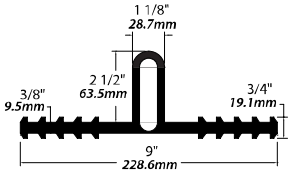
NO.	STD. WT.	HEAD PRESS.
698	0.78 lb/ft (1.16 kg/m)	65' (194 KPa)



NO.	STD. WT.	HEAD PRESS.
699	1.00 lb/ft (1.49 kg/m)	100' (299 KPa)

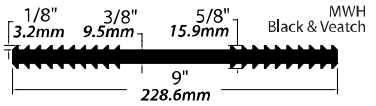


NO.	STD. WT.	HEAD PRESS.
700	3.78 lb/ft (5.63 kg/m)	150' (448 KPa)

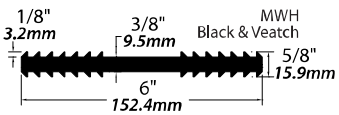


FLAT RIBBED

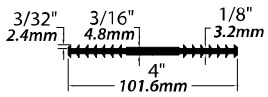
NO.	STD. WT.	HEAD PRESS.
646	2.37 lb/ft (3.53 kg/m)	175' (523 KPa)



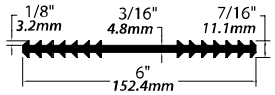
NO.	STD. WT.	HEAD PRESS.
679	1.50 lb/ft (2.23 kg/m)	125' (373 KPa)



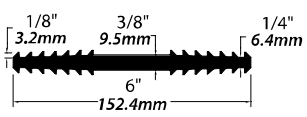
NO.	STD. WT.	HEAD PRESS.
781	.43 lb/ft (.64 kg/m)	65' (194 KPa)



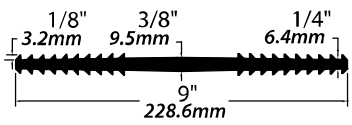
NO.	STD. WT.	HEAD PRESS.
782	.84 lb/ft (1.25 kg/m)	75' (224 KPa)



NO.	STD. WT.	HEAD PRESS.
783	1.39 lb/ft (2.07 kg/m)	125' (373 KPa)



NO.	STD. WT.	HEAD PRESS.
786	2.07 lb/ft (3.08 kg/m)	175' (523 KPa)



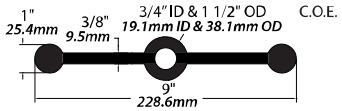
FOR A FULL LIST OF AVAILABLE WATERSTOP PROFILES VISIT: USA.SIKA.COM

PROJECT PROFILES AND SIZES

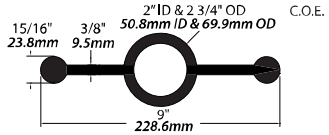
SHAPES ARE DRAWN TO VARYING SCALES

DUMBBELL CENTERBULB

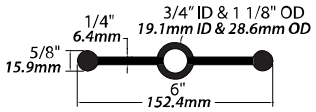
NO.	STD. WT.	HEAD PRESS.
753	3.10 lb/ft (4.61 kg/m)	150' (448 KPa)



754	3.70 lb/ft (5.51 kg/m)	150' (448 KPa)

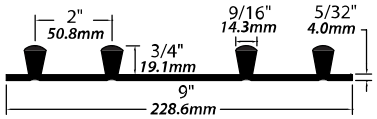


757	1.41 lb/ft (2.10 kg/m)	100' (299 KPa)

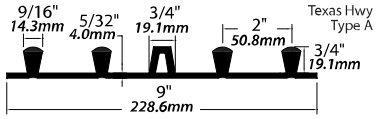


BASE SEAL

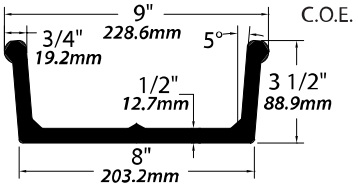
NO.	STD. WT.	HEAD PRESS.
771	1.53 lb/ft (2.28 kg/m)	100' (299 KPa)



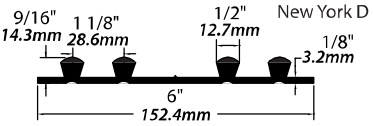
772	1.85 lb/ft (2.75 kg/m)	100' (299 KPa)



775	4.64 lb/ft (6.91 kg/m)	

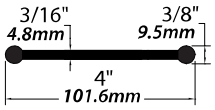


776	.83 lb/ft (1.24 kg/m)	100' (299 KPa)

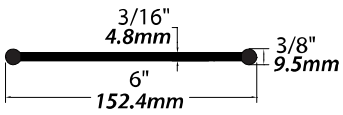


DUMBBELL

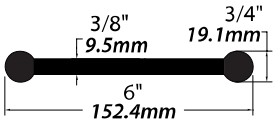
NO.	STD. WT.	HEAD PRESS.
741	0.47 lb/ft (0.70 kg/m)	65' (194 KPa)



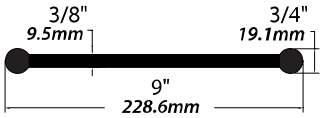
746	0.71 lb/ft (1.06 kg/m)	75' (224 KPa)



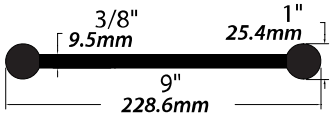
748	1.51 lb/ft (2.25 kg/m)	125' (373 KPa)



751	2.18 lb/ft (3.24 kg/m)	150' (448 KPa)

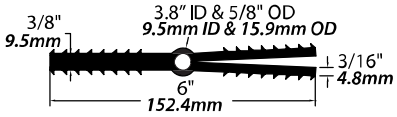


752	2.55 lb/ft (3.79 kg/m)	150' (448 KPa)

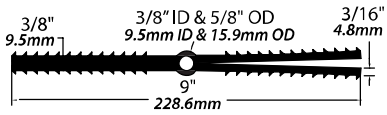


SPLIT FLANGE

NO.	STD. WT.	HEAD PRESS.
724	1.54 lb/ft (2.29 kg/m)	125' (373 KPa)

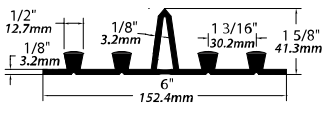


727	2.25 lb/ft (3.35 kg/m)	150' (448 KPa)



CRACK INDUCER

NO.	STD. WT.	HEAD PRESS.
639	1.03 lb/ft (1.53 kg/m)	100' (299 KPa)

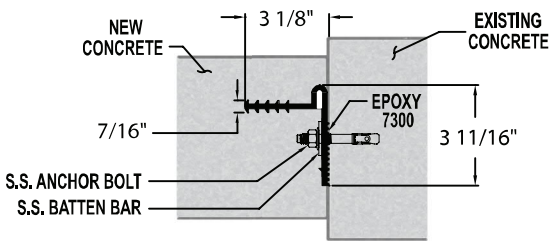


PROJECT PROFILES AND SIZES

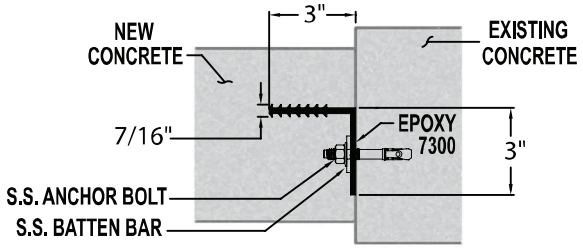
SHAPES ARE DRAWN TO VARYING SCALES

RETROFIT WATERSTOP SYSTEMS

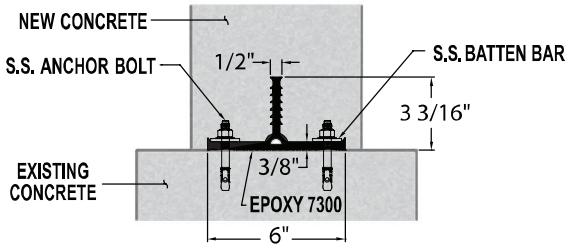
NO.	SYSTEM STD. WT. with hardware
581	1.51 lb/ft (2.25 kg/m)



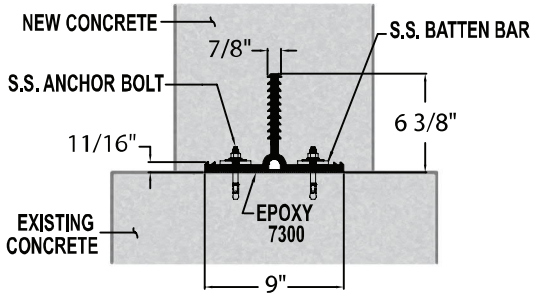
NO.	SYSTEM STD. WT. with hardware
655	1.38 lb/ft (2.05 kg/m)



NO.	SYSTEM STD. WT. with hardware
609	2.92 lb/ft (4.35 kg/m)



NO.	SYSTEM STD. WT. with hardware
667	8.27 lb/ft (12.31 kg/m)



A NOTE ABOUT HEAD PRESSURE RATINGS: Head Pressure Ratings are based on parameters published in the Corps of Engineers document, Waterstops and Other Preformed Joint Materials for Civil Works Structures EM 1110-2-2101, dated 30 September 1995. Sample testing conducted by Sika® on select profiles has indicated a conservative tendency in these ratings. That said, the published Head Pressure Ratings should be considered to be ultimate values. An appropriate safety factor should be applied to these values. Contact a Sika® Greenstreak® representative for more information.

INSTALLATION AIDS AND FABRICATIONS

PVC waterstops must be securely positioned in the forms to prevent deflection or misalignment during concrete placement. This is achieved by tying off the outer edge of the waterstop to adjacent reinforcing steel. Sika offers options to properly anchor PVC waterstop, including:

- PUNCHED FLANGES - most ribbed shapes can be provided with punched flanges
- GROMMETS - select shapes can be provided with brass grommets
- HOG RINGS AND PLIERS - available for field application and suitable for most shapes

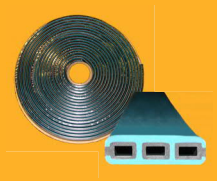
Hog Rings and Pliers

Virtually every concrete structure requiring a PVC waterstop is going to encounter a joint that will change direction or intersect with another joint. One of the benefits PVC offers is the ability to heat weld the material to create a continuous sealing diaphragm within the joints of a concrete structure. Waterstop failures are often the result of improper field fabricated transitions and intersections. Sika strongly recommends factory made fabrications to help reduce failure of your waterstop system. Heat welding is the only recognized installation method for PVC waterstop. Sika® Greenstreak® offers a full range of Splicing Irons with replacement covers to fill this requirement. Please contact the Sika® Greenstreak® sales department for additional details.

PVC WATERSTOP COMPANION PRODUCTS

SIKA® GREENSTREAK® ALSO OFFERS THE BELOW ACCESSORY ITEMS, WHICH CAN BE USED IN CONJUNCTION WITH OUR PVC WATERSTOPS ENSURING A FULLY WATERTIGHT STRUCTURE .

X-Plug® Mechanical Taper Tie Void Plug
The X-Plug® is a "patented" mechanical plug specifically designed to SEAL the void formed in a concrete wall by the removal of a taper tie rod or pass through tie sleeve.



Sika® Hydrotite® is a world renowned hydrophilic waterstop. Composed of modified chloroprene rubber protected with a special delay coating, Hydrotite® expands when exposed to water, creating an effective compression seal within joints where limited movement will occur.

Sika® Swellstop™ is comprised of bentonite clay and butyl rubber. It is a hydrophilic waterproofing material that expands upon contact with water to form a compression seal in non-working joints. Swellstop™ is available in three sizes and must be used in conjunction with **Swellstop™ Primer Adhesive.**

SikaFuko® VT injection hose is the world's number one injection hose system. SikaFuko® VT is available in two sizes that can delivery our specially formulated 306 or 215 injection resins along with Portland cement, microfine cement or a wide variety of other injectable materials to seal cracks or voids in the joint area.

The sale of all Sika products are subject to the following Limited Warranty:
LIMITED MATERIAL WARRANTY
Sika warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within shelf life. User determines suitability of product for intended use and assumes all risks. Buyer's sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**
Our most current General Sales Conditions shall apply. Please consult the Product Data Sheets prior to any use and processing.

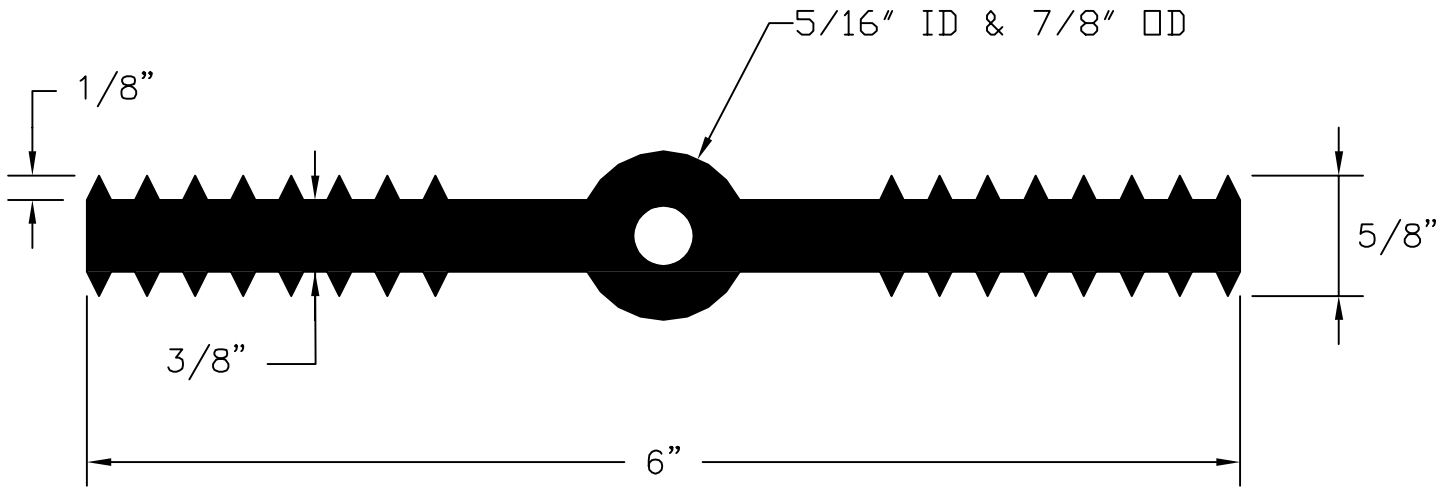
SIKA CORPORATION
ISO 9001: 2015 W/DESIGN
CERT# 17.318.1

SIKA CORPORATION
Sika Greenstreak Sales and
Technical Support Office
3400 Tree Court Industrial Blvd.
Saint Louis, MO 63122

Contact
Phone: 800 325 9504
Fax: 800 551 5145
usa.sika.com

Greenstreak BUILDING TRUST

FILE: N:\PUBLIC\AutoCAD\AutoCAD 0-Drawings\Greenstreak\Profiles\GSK732.dwg



732 PROFILE

SCALE: 1" = 1"

REV. MARK	REVISION	BY	CHK	APP	DATE

DESIGNED:		
DRAWN:	R. MOSBEY	11/20/01
CHECKED:		
APPROVED:		
MFG. REP.:		
SHEET NUMBER:		

DATE:	
PART NUMBER:	0732001
QUANTITY REQUIRED:	
SCALE:	AS SHOWN
DWG. REF. NO.:	GSK732

GREENSTREAK
3400 TREE CRT. IND. BLVD., ST. LOUIS, MO 63122-6689
PH: 800-325-9504 (636-225-9400) FX: 800-551-5145 (636-225-2049)
WEBSITE: www.greenstreak.com EMAIL: info@greenstreak.com

TITLE: 732 – 6" X 3/8" RIBBED WITH CENTERBULB

REV

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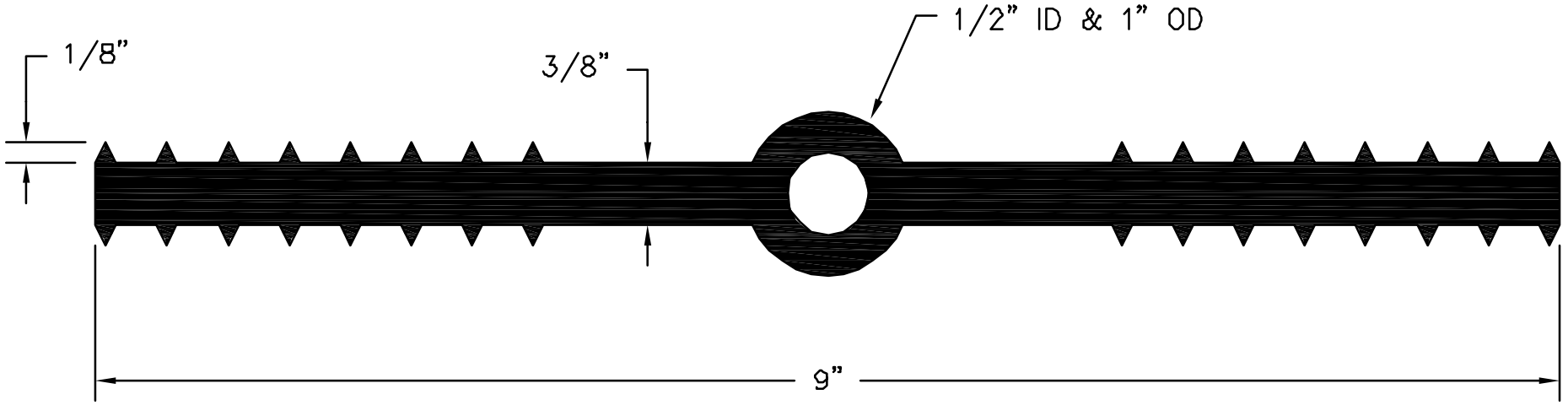
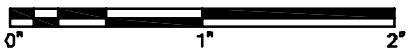


735 PROFILE

SCALE: 1" = 1"



REV. MARK	REVISION	BY	CHK	APP	DATE

DESIGNED:		
DRAWN:	R. MOSBEY	5/29/01
CHECKED:		
APPROVED:		
FAIL REP.:		
SHEET NUMBER:		

DATE:	
PART NUMBER:	0735001
QUANTITY REQUIRED:	
SCALE:	AS SHOWN
DWG. REF. NO.:	GSK735

GREENSTREAK

3400 TREE CRT. IND. BLVD., ST. LOUIS, MO 63122-6689

PH: 800-325-9504 (636-225-9400) FX: 800-551-5145 (636-225-2049)

WEBSITE: www.greenstreak.com EMAIL: info@greenstreak.com

TITLE: 9" X 3/8" RIBBED WITH CENTERBULB

REV

Waterproofing

Greenstreak® PVC Waterstop

Flexible PVC Waterstop

Description	Greenstreak® PVC Waterstop is a flexible PVC waterstop for joint waterproofing.
Where To Use	■ Water/Waste Water Treatment Plants ■ Lock and Dam Systems ■ Reservoirs and Aqueducts ■ Flood Walls ■ Retaining Walls ■ Foundations ■ Tunnels and Culverts ■ Bridge Abutments ■ Containment Structures and Tanks ■ Slabs-on-Ground
Advantages	Greenstreak® PVC Waterstop features: ■ Embedded in concrete, across and/or along the joint, waterstops form a watertight diaphragm that prevents the passage of liquid through the joint. ■ Suitable for potable water contact, meets NSF/ANSI Standard 61.
Typical Data	
Coverage	Available in various lengths.
Packaging	Varies

Property	ASTM Test Method	Value
Water Absorption	ASTM D570	0.15% max.
Tear Resistance	ASTM D624	300 lb. / in. min.
Ultimate elongation	ASTM D638	350%
Tensile strength	ASTM D638	2000 psi min.
Low temperature brittleness	ASTM D746	Passes @ -35°F / -37°C
Stiffness in flexure	ASTM D747	700 psi min.
Specific gravity	ASTM D792	1.38 max.
Hardness Shore A15	ASTM D2240	79+/-3
Accelerated extraction - Tensile strength - Elongation	Corp. of Engineers CRD-C-572	1600 psi min. 300% min.
Effect of Alkali - Weight change - Hardness change	Corp. of Engineers CRD-C-572	+0.25% -0.10% +/- 5 points

*Results may differ based upon statistical variations depending upon equipment, temperature, application methods, test methods, and actual site condition.

Waterproofing

How to Use

Chemical Resistance	Not intended for chemical containment applications, please refer to Westec® waterstop literature at usa.sika.com for more information on Sika's chemically resistant waterstop product line.
Application	Greenstreak® PVC Waterstop must be installed prior to concrete placement to ensure proper positioning and concrete consolidation around the waterstop. All transitions, intersections, and splices should be heat welded to maintain continuity. Factory Made Fabrications are recommended for all intersections and changes of direction. Specific installation requirements will vary depending on the style of profile, please refer to Sika's PVC Waterstop Installation Guide and Splicing PVC Waterstop Installation Guide available at usa.sika.com.
Tooling & Finishing	All transitions, intersections, and splices must be heat welded using a Sika Greenstreak Splicing Iron in compliance with the instructions shown in Sika's Splicing PVC Waterstop Installation Guidelines found at usa.sika.com.
Limitations	The size, shape, and style of waterstop should be based on specific application needs. Please consult a Sika Greenstreak Engineer at 800-325-9504 for assistance with profile selection.

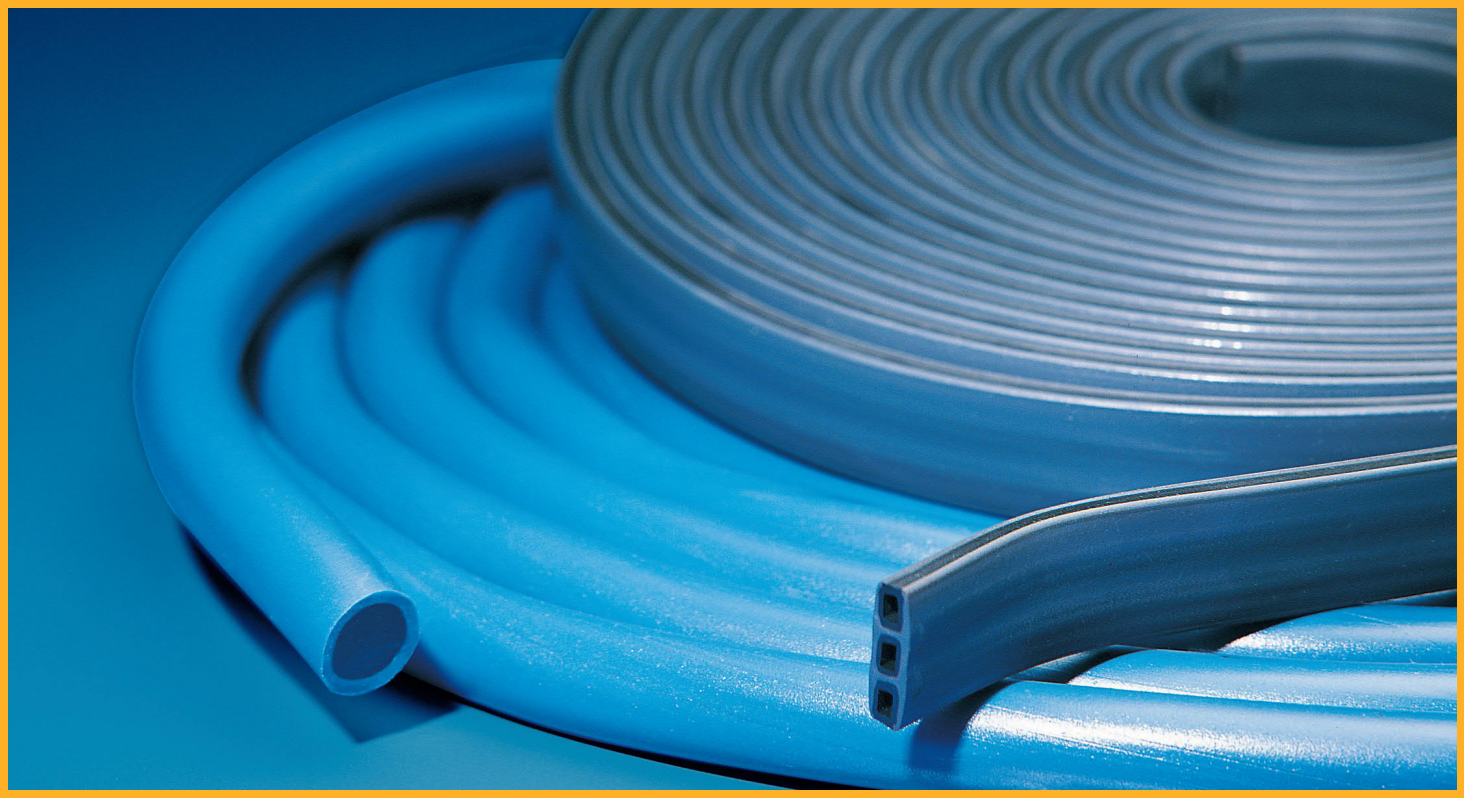
Sika Greenstreak Sales Office
3400 Tree Court Industrial Blvd.
St. Louis, MO 63122
Tel: (636) 225-9400
Fax: (636) 225-2049
usa.sika.com

Sika Corporation
201 Polito Avenue
Lyndhurst, NJ 07071
Phone: (201) 933-8800
Fax: (201) 933-6225
usa.sika.com

Sika Canada Inc.
601, Delmar Avenue
Pointe-Claire, QC H9R 4A9
Phone: (514) 697-2610
Fax: (514) 697-3087
can.sika.com

Section:	03 25 20
#:	0005
Specified:	2.01.B.5.a, Hydrophilic Rubber Waterstop
Reference:	view spec
Item submitted:	Sika® Hydrotite® (formerly Greenstreak)

Sika-Hydrotite-formerly-Greenstreak-Product-Data-1853639.pdf
Sika-Hydrotite-formerly-Greenstreak-SDS-1853650.PDF
Sika-Hydrotite-formerly-Greenstreak-Installation-Instructions-1853652.PDF
Sika-Hydrotite-formerly-Greenstreak-Installation-Instructions-1853651.PDF
Sika-Hydrotite-formerly-Greenstreak-Installation-Instructions-1853640.PDF



WATERSTOPS FOR JOINTS IN CONCRETE

Sika® Hydrotite®

HYDROPHILIC WATERSTOP

BUILDING TRUST

Sika® Hydrotite®

The Benchmark for Expandable Waterstops

Sika® Hydrotite® IS A STATE-OF-THE-ART HYDROPHILIC WATERSTOP with unmatched durability and watersealing capacity. Comprised of NON-BENTONITE, modified chloroprene rubber, Sika® Hydrotite® expands up to EIGHT TIMES its original volume when exposed to water. This expansion creates an effective compression seal within joints of limited movement. Recognized worldwide, Sika® Hydrotite® has a proven track record as a high quality and cost effective solution to your water containment needs.

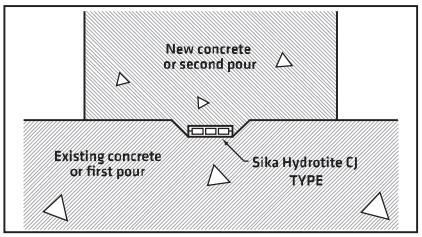
EXCEPTIONAL QUALITIES TO ENSURE UNPARALLELED PERFORMANCE:

- Comprised of NON-BENTONITE, modified chloroprene rubber
- Available as a co-extruded profile to provide directional expansion (also available as a single extrusion)
- Special expansion delay coating to allow concrete cure prior to expansion
- Reliable and durable (lifespan up to 100 years)
- CJ-0725-3K-ADH and CJ-1020-2K-ADH offered with an adhesive back
- Simple, low cost installation
- Available in a multitude of sizes and shapes for numerous applications
- Appropriate for retro-fit as well as new construction
- Can withstand high hydrostatic pressures (150' head for most profiles)
- International acceptance
- CJ-1020-2K and CJ-0725-3K profiles NSF/ANSI 61 Approved*

Certified to NSF/ANSI 61

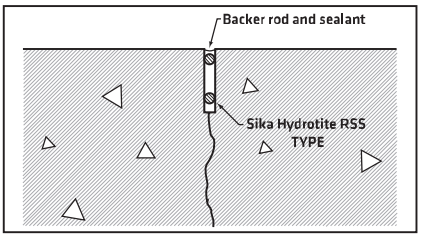
TYPICAL STRUCTURES UTILIZING Sika® Hydrotite®:

- Water and waste water treatment facilities
- Primary structures
- Tunnels and culverts
- Dams, locks, canals, water reservoirs and aqueducts
- Pipe penetrations
- Swimming pools
- Storage tanks
- Retaining walls
- Foundations
- Slabs on grade



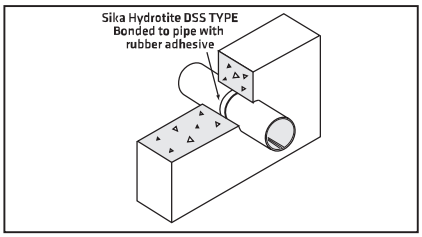
Sika® Hydrotite® CJ: A SUPERIOR WATERSTOP FOR CONCRETE JOINT GAPS

As this innovative product absorbs water and expands, it conforms to gap variations along the joint. This action ensures complete sealing even under extraordinary hydrostatic pressures. Due to its slim profile, it won't project like conventional waterstops and trap air or become displaced by the second pour. The result is optimum concrete placement. Sika® Hydrotite® CJ, is treated with a special expansion-delay coating to prevent it from reacting to the fresh, moist concrete and expanding before curing takes place.



Sika® Hydrotite® RSS: SEAL FOR SAWED CONTROL JOINTS/JOINT REPAIRS

Sika® Hydrotite® RSS profiles create effective seals in sawed control joints and in the repair of failed joints. Sika® Hydrotite® eliminates hydrostatic pressure below the sealant, thus extending the sealant's life. Select solid profiles with slightly larger diameters than the joint width for joints of consistent widths. Hollow profiles should be selected based on the maximum width of joints with varying widths. Compress both profiles slightly on initial insertion.



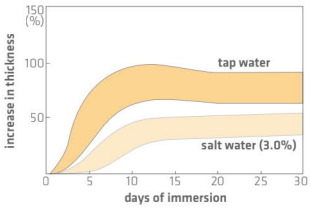
Sika® Hydrotite® DSS: PIPE PENETRATIONS/PIPE THIMBLES

The DSS, DS, SS, RS, and CJ profiles can be bonded to various piping materials, including concrete, steel and plastic. Bond Sika® Hydrotite® DSS to the pipe prior to concrete placement. Installation in existing walls requires an oversize cutout be made and Sika® Hydrotite® installed both on the pipe and the outside diameter of the cutout. Fill the annulus with a non-shrink grout. Embedded pipe thimbles can also be sealed with Sika® Hydrotite® DSS.

PRODUCT SELECTION

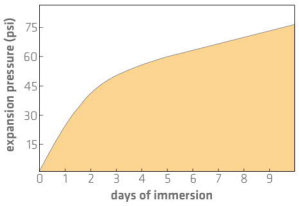
PROPERTIES OF Sika® Hydrotite®						
Property	**Test Method**	**Unit**	**Hydrophilic Rubber**		**Chloroprene Rubber**	
			Minimum	**Typical**	**Minimum**	**Typical**
Tensile Strength	ASTM D412	lb/in²	350	366	1300	1570
Elongation	ASTM D412	%	600	670	400	450
Hardness	ASTM D2240	Shore A	52+/-5	54	50+/-5	50
Tear Resistance	ASTM D624	lb/in	50	60.3	100	123
Specific Gravity	ASTM D792		1.32+/-0.1	1.32	1.38+/-0.1	1.38

SWELLING CHARACTERISTICS

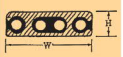


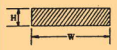
Swelling characteristics of Sika® Hydrotite® depend on the water quality as typical examples shown below.

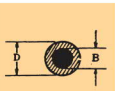
EXPANSION CHARACTERISTICS

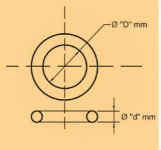


Typical expansion pressures of Sika® Hydrotite® are shown below.

SHAPE AND APPLICATION				
ITEM		**NOMINAL SIZE mm (inches)**		**PACKAGING UNIT METERS/REEL x REELS (FT/BOX)**
FOR CONSTRUCTION JOINTS				
	CJ-0725-3K (NSF) CJ-0725-3K-ADH	H 7 (.28)	W 25 (.98)	10 m x 4 (131)
		Same as above with pressure sensitive adhesive backing		
	CJ-1020-2K (NSF) CJ-1020-2K-ADH	10 (.39)	20 (.79)	10 m x 5 (164)
		Same as above with pressure sensitive adhesive backing		
	CJ-1030-4M	10 (.39)	30 (1.18)	10 m x 4 (131)
	CJ-3030-M	30 (1.18)	30 (1.18)	10 m x 1 (33)

ITEM		NOMINAL SIZE mm (inches)			PACKAGING UNIT METERS/REEL x REELS (FT/BOX)
FOR PIPE PENETRATIONS, CONCRETE CURBS, TUNNEL LINING SEGMENTS					
	SS-0215 SS-0220 SS-0320	H 2 (.08) 2 (.08) 3 (.12)	W 15 (.59) 20 (.79) 20 (.79)	- - -	h 25 m x 4 (328) 25 m x 4 (328) 25 m x 4 (328)
	RS-0520-3.5I RS-0723-3.5I	5 (.20) 7 (.28)	20 (.79) 23 (.91)	3.5 (.14) 3.5 (.14)	20 m x 5 (328) 15 m x 4 (196)
	DS-0420-2.5I DS-0520-3.5I DS-0615-4.5I	4 (.16) 5 (.20) 6 (.24)	20 (.79) 20 (.79) 15 (.59)	2.5 (.10) 3.5 (.14) 4.5 (.18)	20 m x 5 (328) 20 m x 5 (328) 15 m x 5 (245)
	DSS-0320 DSS-0420	3 (.12) 4 (.16)	20 (.79) 20 (.79)	- -	25 m x 4 (328) 20 m x 5 (328)

ITEM	NOMINAL SIZE mm (inches)			PACKAGING UNIT METERS/REEL x REELS (FT/BOX)
FOR JOINT REPAIR, CONTROL JOINTS, SPECIAL APPLICATIONS				
	D B			h
	RSS-1610 D RSS-2014 D	16 (.63) 20 (.79)	10 (.39) 14 (.55)	10 m x 2 (65) 10 m x 2 (65)
	RSS-0806 C RSS-1007 C RSS-1209 C RSS-1410 C	8 (.31) 10 (.39) 12 (.47) 14 (.55)	6 (.24) 7 (.28) 9 (.35) 10 (.39)	20 m x 5 (320) 20 m x 3 (196) 20 m x 2 (131) 15 m x 2 (98)
	RSS-040 P RSS-050 P RSS-060 P RSS-080 P RSS-120 P RSS-140 P RSS-160 P	4 (.16) 5 (.20) 6 (.24) 8 (.31) 12 (.47) 14 (.55) 16 (.63)	- - - - - - -	20 m x 10 (656) 20 m x 10 (656) 20 m x 10 (656) 20 m x 5 (320) 20 m x 2 (131) 15 m x 2 (98) 10 m x 2 (65)

HYDROPHILIC RINGS			
	**Profile**	**Ø "d"**	**Ø "D"**
	GH0611	6	11
	GH0614	6	14
	GH0621	6	21
	GH0624	6	24

Sika® Hydrotite® rings are available in a range of internal diameters to meet varying needs. Sika® Hydrotite® hydrophilic rings may be installed wherever a penetration through concrete needs to be sealed. Conduits, pipes, embedded sleeves, concrete wall ties, etc., can all be sealed utilizing Sika® Hydrotite® rings.

SIKA FULL RANGE SOLUTIONS FOR CONSTRUCTION:

WATERPROOFING

CONCRETE

REFURBISHMENT

SEALING AND BONDING

FLOORING

ROOFING

All sales of Sika products are subject to Sika's current Terms and Conditions of Sale available at usa.sika.com or by calling 800-325-9504. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's most current Product Data Sheet, product label and Safety Data Sheet, which are available at usa.sika.com or by calling Technical Services at 800-325-9504. Nothing contained in any Sika materials relieves the user of the obligation to read and follow the warnings and instructions for each Sika product as set forth in the current Product Data Sheet, product label and Safety Data Sheet prior to product use.
The sale of all Sika products are subject to the following Limited Warranty:

LIMITED MATERIAL WARRANTY

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within shelf life. User determines suitability of product for intended use and assumes all risks. Buyer's sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor.

NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.

Contact Sika:
Phone: 1-800-325-9504
Website: usa.sika.com

Our most current General Sales Conditions shall apply.
Please consult the Product Data Sheets prior to any use and processing.

**Contact Sika® Greenstreak® at 800-325-9504 for information on trade names and manufacturing location of profiles with NSF/ANSI 61 certification.*

NSF Certified to NSF/ANSI 61

Sika Greenstreak Office
3400 Tree Court Industrial Blvd.
St. Louis, MO 63122
Phone: 800-325-9504
Fax: 800-551-5145

Sika Corporation
201 Polito Avenue
Lyndhurst, NJ 07071
Phone: 201-933-8800
Fax: 201-933-6225

BUILDING TRUST

Greenstreak

BUILDING TRUST

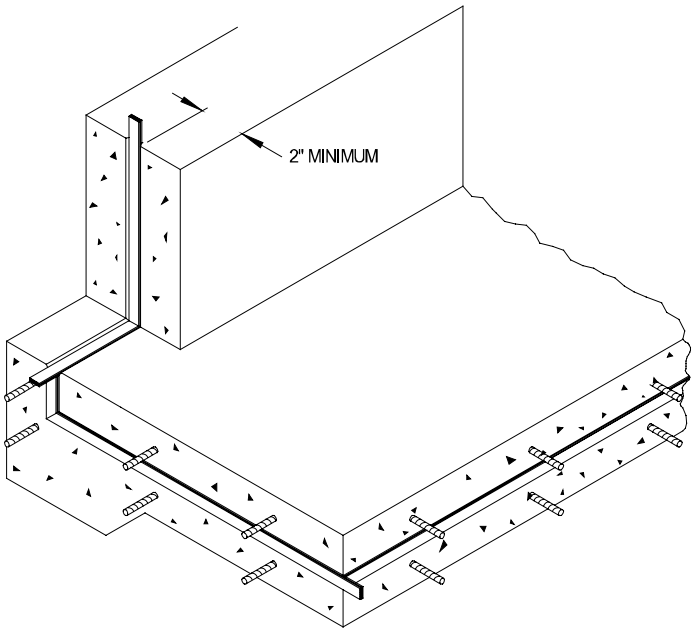
SIKA® HYDROTITE INSTALLATION OF "CJ" PROFILES

SIKA HYDROTITE "CJ" PROFILES

INSTALLATION

INTRODUCTION

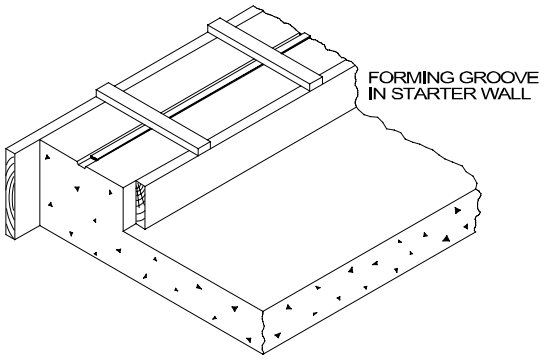
SIKA HYDROTITE is a state-of-the art hydrophilic Waterstop. Comprised of a modified chloroprene rubber, SIKA HYDROTITE has unmatched durability and water sealing capacity. Expanding multiple times its original volume when exposed to water, SIKA HYDROTITE conforms to gap variations along the joint. This action ensures complete sealing even under high hydrostatic head pressures. Due to its slim profile, excellent concrete consolidation can be expected around the waterstop, with little chance of the profile being moved out of position when concrete is placed. The small cross section allows CJ profiles to be packaged in convenient 10-meter rolls.



SIKA HYDROTITE CJ profiles, as well as all other SIKA HYDROTITE profiles, are treated with a special delay coating to prevent the profile from reacting with fresh, moist concrete and expanding before curing takes place. Bond SIKA HYDROTITE profiles to smooth, even surfaces, free of dirt, oil, or laitance for best results. Maintain a minimum of 2" concrete coverage over SIKA HYDROTITE CJ profiles (minimum 4" concrete coverage for CJ-1030-4M and CJ-3030-M profiles) when using 3500 PSI or greater compressive strength concrete. Increase the coverage on reduced strength concrete. SIKA HYDROTITE CJ profiles may be installed in a formed groove of appropriate dimensions or directly to a plain flat concrete surface.

FORMING REQUIREMENTS

SIKA HYDROTITE CJ profiles are installed after the form is stripped from the first pour and before the second concrete pour is made. Therefore, splitting of the form is not required. SIKA HYDROTITE can be installed to the plain surface of concrete or in a formed keyway.



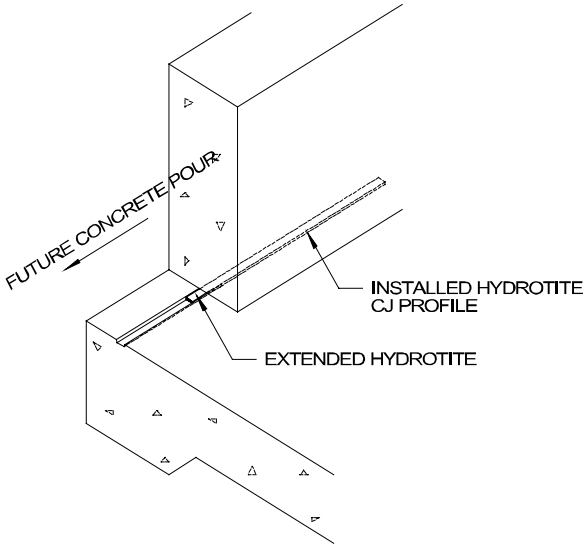
Due to the hydrophilic nature of SIKA HYDROTITE, installation of the profile should be timed as close as possible to the second placement of concrete. This will reduce the chance for premature expansion of SIKA HYDROTITE due to rainwater or ground water exposure. When extended periods are expected between pours along a common joint line, install

SIKA HYDROTITE to a point slightly beyond the end of the first expected pour. Protect exposed length of SIKA HYDROTITE from moisture. In the event the exposed SIKA HYDROTITE exhibits expansion before the next placement of concrete, remove swelled material before splicing to a new length of SIKA HYDROTITE. Follow splicing instructions listed below.

SPLICING

SIKA HYDROTITE CJ profiles are designed with a cellular cross section. The cellular cross section allows the profile to compress slightly when concrete is placed and rebound as the concrete shrinks during cure. The cellular cross section also acts to control the expansive force placed on the surrounding concrete.

Straight lengths of CJ profiles should be cut square with a sharp knife or good pair of shears. Place several drops of a cyanoacrylate adhesive (i.e. Super Glue) on the cut ends of SIKA HYDROTITE and immediately join the ends together. Hold in position for approximately 30-45 seconds to allow the adhesive to set. Proper alignment and bonding of the cut ends will prevent water entering the cells of the profile. Future hydration of the waterstop will further seal the bond area.



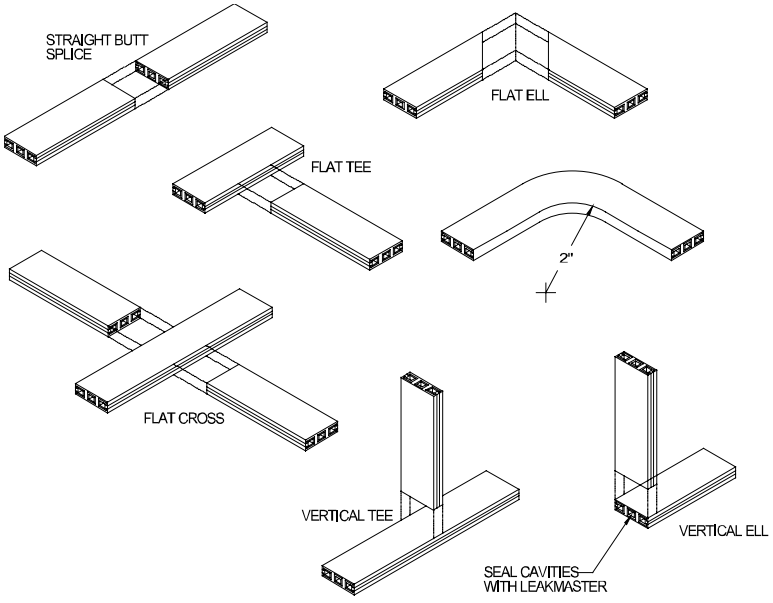
Flat 90° corners should be spliced by miter cutting the two ends at 45° and proceeding in a manner similar to the above. When space permits, CJ-0725-3K and CJ-1020-2K can be bent to an inside radius of approximately 2 inches, eliminating a spliced joint.

Flat "T's" and "X's" should be made by butt splicing the legs with the use of cyanoacrylate adhesive.
Vertical 90° corners, vertical "T's" and vertical "X's" should be butted and bonded with the cyanoacrylate adhesive.
All splices can be further enhanced by placing a bead of LEAKMASTER at the splice.

BONDING TO CONCRETE

Remove all dust, oil, laitance, etc., from concrete surface prior to adhering SIKA HYDROTITE. Depending on concrete surface conditions, one of several adhesives can be used.

Normal forming practice leaves a sufficiently smooth surface for direct bonding of SIKA HYDROTITE to the concrete by one of several methods. SIKA HYDROTITE CJ-1020-2K and CJ-0725-3K profiles are available with a "peel-and-stick" adhesive backing for fast and easy installation. Simply remove the release paper and press the profile firmly against the concrete in the desired location. SIKA HYDROTITE profiles can alternatively be secured with SIKA HYDROTITE ADHESIVE. The adhesive should be applied to both the SIKA HYDROTITE profile and the concrete surface and allowed to dry to a tacky condition. Once this condition is met, place the SIKA



HYDROTITE profile into position. These methods work well when concrete surfaces are smooth and dry.

Concrete surfaces left rough due to jackhammering, extensive weathering, etc., should be brought to a smooth level condition. LEAKMASTER, a single component swellable sealant, can be used for this purpose when the concrete surface is dry. Apply a sufficient bead of LEAKMASTER to the rough concrete to ensure that a smooth level surface will result. SIKA HYDROTITE should be placed in position within 4 hours of application of LEAKMASTER. Concrete nails may be used on vertical or overhead surfaces to hold the profile in position while the LEAKMASTER cures.

A 2-part epoxy may also be used to level rough surfaces. SIKA GRENSTREAK EPOXY 7300 can be used on rough, wet concrete surfaces to bond SIKA HYDROTITE profiles into position. SIKA HYDROTITE should be applied to the bed of epoxy prior to final cure, approximately 30 minutes. Again, concrete nails may be used on vertical or overhead applications while the epoxy cures.

IMPORTANT PRECAUTIONS

SIKA HYDROTITE CJ type profiles should be used primarily in site formed concrete joints where limited movement is expected. SIKA HYDROTITE protects a joint from water migration by creating a compressive seal within the joint. Joints with excessive movement will diminish this compressive seal and compromise the seals' effectiveness. While SIKA HYDROTITE CJ profiles can be wet-dry cycled many times, a constantly damp and/or wet environment is ideal.

Cracking of the concrete, caused by the expansion pressure of SIKA HYDROTITE, can be avoided by maintaining a 2" minimum concrete coverage. Increase this coverage if lightweight or low strength concrete (<3000 PSI compressive strength) is used or when using CJ-1030-4M and CJ-3030-M profiles.

SIKA HYDROTITE should be stored in a cool, dark, dry place. Exposure to moisture prior to installation may expand the SIKA HYDROTITE prematurely. If SIKA HYDROTITE is installed in an expanded condition, the effectiveness of the seal may be severely reduced.

Once installed, adequate measures should be taken to prevent exposure to rain water, ground water, etc., before the joint is covered with concrete.

Limited Warranty: Sika® warrants its products to be free of manufacturing defects and that they will meet Sika's current published physical properties when applied in accordance with Sika's directions and tested in accordance with ASTM and Sika's standards. There are no other warranties by Sika® of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. Sika® shall not be liable for damages of any sort, including remote or consequential damages resulting from any claimed breach of any warranty, whether expressed or implied, including any warranty of merchantability or fitness for a particular purpose or from any other cause whatsoever. Sika® shall also not be responsible for use of this product in a manner to infringe on any patent held by others.

Sika Corporation - US
201 Polito Avenue
Lyndhurst, NJ 07071
United States
Usa.Sika.com

For More Information Contact
Sika - St. Louis Sales Office
3400 Tree Court Industrial Blvd.
63122, St. Louis, MO
United States
www.USA.Sika.com
Phone: 1-800-325-9504
Fax: 800-551-5145

Greenstreak

BUILDING TRUST

SIKA® HYDROTITE INSTALLATION OF "CJ" PROFILES

SIKA HYDROTITE "CJ" PROFILES

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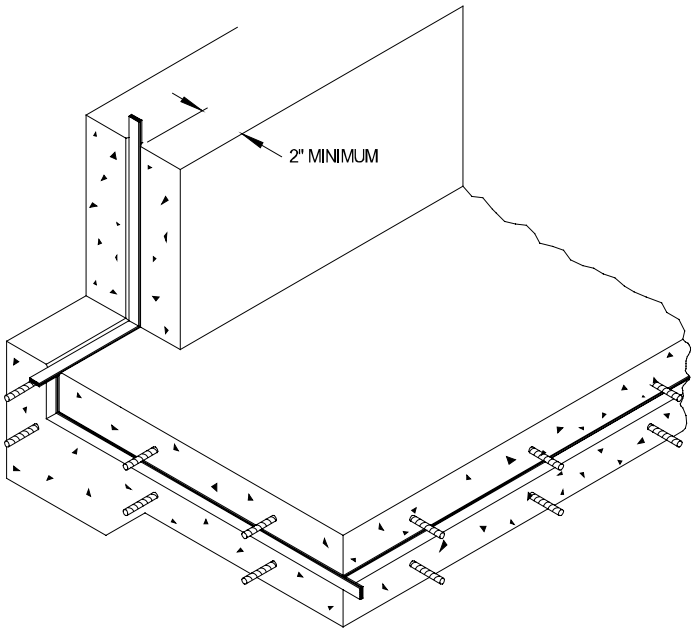

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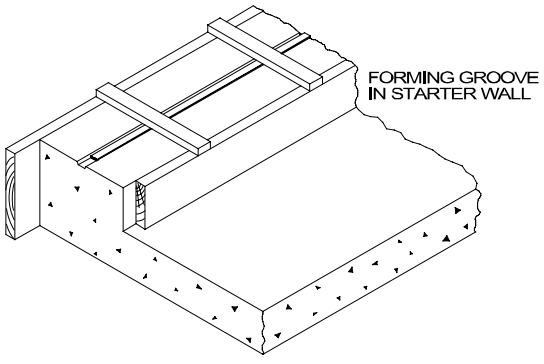

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SIKA HYDROTITE to a point slightly beyond the end of the first expected pour. Protect exposed length of SIKA HYDROTITE from moisture. In the event the exposed SIKA HYDROTITE exhibits expansion before the next placement of concrete, remove swelled material before splicing to a new length of SIKA HYDROTITE. Follow splicing instructions listed below.

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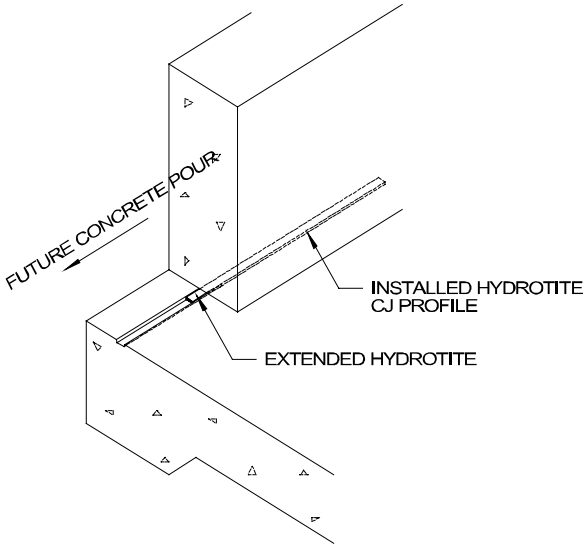
Straight lengths of CJ profiles should be cut square with a sharp knife or good pair of shears. Place several drops of a cyanoacrylate adhesive (i.e. Super Glue) on the cut ends of SIKA HYDROTITE and immediately join the ends together. Hold in position for approximately 30-45 seconds to allow the adhesive to set. Proper alignment and bonding of the cut ends will prevent water entering the cells of the profile. Future hydration of the waterstop will further seal the bond area.



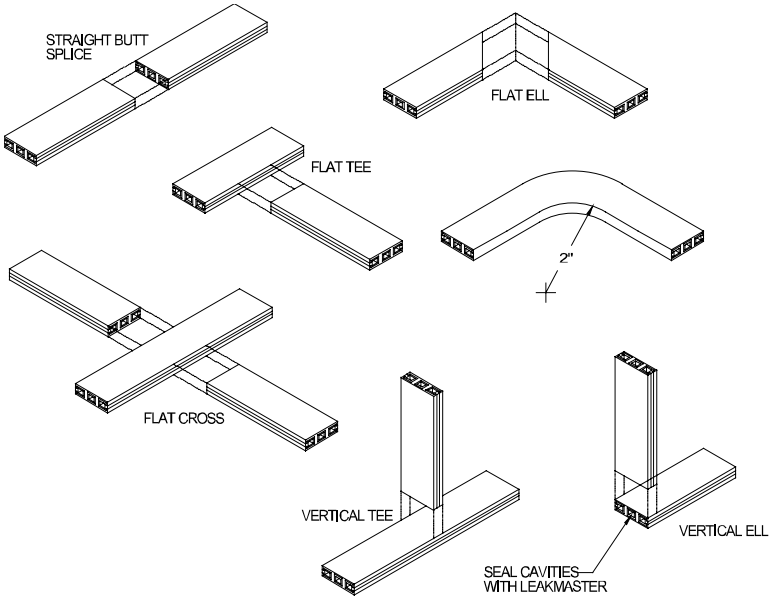
Flat 90° corners should be spliced by miter cutting the two ends at 45° and proceeding in a manner similar to the above. When space permits, CJ-0725-3K and CJ-1020-2K can be bent to an inside radius of approximately 2 inches, eliminating a spliced joint.

Flat "T's" and "X's" should be made by butt splicing the legs with the use of cyanoacrylate adhesive.
Vertical 90° corners, vertical "T's" and vertical "X's" should be butted and bonded with the cyanoacrylate adhesive.
All splices can be further enhanced by placing a bead of LEAKMASTER at the splice.

BONDING TO CONCRETE

Remove all dust, oil, laitance, etc., from concrete surface prior to adhering SIKA HYDROTITE. Depending on concrete surface conditions, one of several adhesives can be used.

Normal forming practice leaves a sufficiently smooth surface for direct bonding of SIKA HYDROTITE to the concrete by one of several methods. SIKA HYDROTITE CJ-1020-2K and CJ-0725-3K profiles are available with a "peel-and-stick" adhesive backing for fast and easy installation. Simply remove the release paper and press the profile firmly against the concrete in the desired location. SIKA HYDROTITE profiles can alternatively be secured with SIKA HYDROTITE ADHESIVE. The adhesive should be applied to both the SIKA HYDROTITE profile and the concrete surface and allowed to dry to a tacky condition. Once this condition is met, place the SIKA



HYDROTITE profile into position. These methods work well when concrete surfaces are smooth and dry.

Concrete surfaces left rough due to jackhammering, extensive weathering, etc., should be brought to a smooth level condition. LEAKMASTER, a single component swellable sealant, can be used for this purpose when the concrete surface is dry. Apply a sufficient bead of LEAKMASTER to the rough concrete to ensure that a smooth level surface will result. SIKA HYDROTITE should be placed in position within 4 hours of application of LEAKMASTER. Concrete nails may be used on vertical or overhead surfaces to hold the profile in position while the LEAKMASTER cures.

A 2-part epoxy may also be used to level rough surfaces. SIKA GRENSTREAK EPOXY 7300 can be used on rough, wet concrete surfaces to bond SIKA HYDROTITE profiles into position. SIKA HYDROTITE should be applied to the bed of epoxy prior to final cure, approximately 30 minutes. Again, concrete nails may be used on vertical or overhead applications while the epoxy cures.

IMPORTANT PRECAUTIONS

SIKA HYDROTITE CJ type profiles should be used primarily in site formed concrete joints where limited movement is expected. SIKA HYDROTITE protects a joint from water migration by creating a compressive seal within the joint. Joints with excessive movement will diminish this compressive seal and compromise the seals' effectiveness. While SIKA HYDROTITE CJ profiles can be wet-dry cycled many times, a constantly damp and/or wet environment is ideal.

Cracking of the concrete, caused by the expansion pressure of SIKA HYDROTITE, can be avoided by maintaining a 2" minimum concrete coverage. Increase this coverage if lightweight or low strength concrete (<3000 PSI compressive strength) is used or when using CJ-1030-4M and CJ-3030-M profiles.

SIKA HYDROTITE should be stored in a cool, dark, dry place. Exposure to moisture prior to installation may expand the SIKA HYDROTITE prematurely. If SIKA HYDROTITE is installed in an expanded condition, the effectiveness of the seal may be severely reduced.

Once installed, adequate measures should be taken to prevent exposure to rain water, ground water, etc., before the joint is covered with concrete.

Limited Warranty: Sika® warrants its products to be free of manufacturing defects and that they will meet Sika's current published physical properties when applied in accordance with Sika's directions and tested in accordance with ASTM and Sika's standards. There are no other warranties by Sika® of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. Sika® shall not be liable for damages of any sort, including remote or consequential damages resulting from any claimed breach of any warranty, whether expressed or implied, including any warranty of merchantability or fitness for a particular purpose or from any other cause whatsoever. Sika® shall also not be responsible for use of this product in a manner to infringe on any patent held by others.

Sika Corporation - US
201 Polito Avenue
Lyndhurst, NJ 07071
United States
Usa.Sika.com

For More Information Contact
Sika - St. Louis Sales Office
3400 Tree Court Industrial Blvd.
63122, St. Louis, MO
United States
www.USA.Sika.com
Phone: 1-800-325-9504
Fax: 800-551-5145

Greenstreak

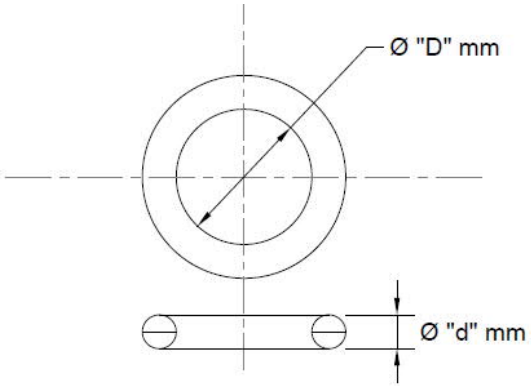
BUILDING TRUST

SIKA® HYDROTITE O-RINGS INFORMATION & INSTALLATION

SIKA® SIKA HYDROTITE O-RINGS
INFORMATION & INSTALLATION

INTRODUCTION

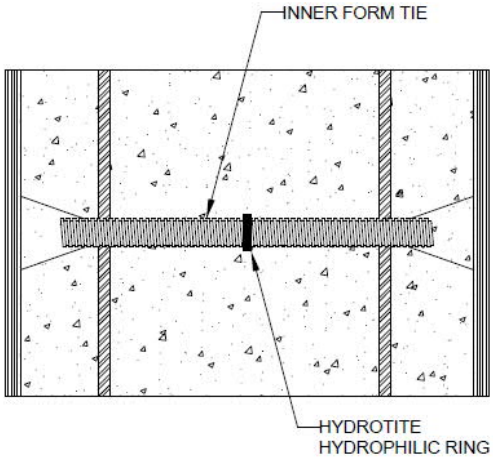
SIKA HYDROTITE is a state-of-the art hydrophilic waterstop. Comprised of a modified chloroprene rubber, SIKA HYDROTITE has unmatched durability and water sealing capacity. Expanding up to three times its original volume when exposed to water, SIKA HYDROTITE conforms to gap variations along joints. This action ensures complete sealing even under high hydrostatic head pressures. Due to its slim profile, excellent concrete consolidation can be expected around the O-ring, with little chance of the profile being moved out of position when concrete is placed. SIKA HYDROTITE O-rings are available in a range of internal diameters to meet varying needs. SIKA HYDROTITE O-rings may be installed wherever a penetration through concrete needs to be sealed. Conduits, pipes, embedded sleeves, concrete wall ties, etc., can all be sealed utilizing SIKA HYDROTITE O-rings.



Profile	Ø "d"	Ø "D"
GH0611	6	11
GH0614	6	14
GH0621	6	21
GH0624	6	24

INSTALLATION

A minimum of 2" concrete coverage should be maintained over SIKA HYDROTITE O-rings when using 3000 PSI or greater compressive strength concrete. Coverage should be increased when concrete with lower compressive strength is used. Select a SIKA HYDROTITE O-ring with an inside diameter slightly less than the outside diameter of the member to be sealed. Roll SIKA HYDROTITE O-ring over the member to be sealed and into its final position. Properly selected O-rings will fit snug and will remain in position as concrete is placed.



IMPORTANT PRECAUTIONS

While SIKA HYDROTITE O-rings can be wet-dry cycled many times, a constantly damp and/or wet environment is ideal. Cracking of the concrete caused by the expansion pressure of SIKA HYDROTITE O-ring can be avoided by maintaining a 2" minimum concrete coverage. Increase the coverage if lightweight or low strength concrete (<3000 PSI compressive strength) is used.

SIKA HYDROTITE O-rings should be stored in a cool, dark, dry place. Exposure to moisture prior to installation may expand the SIKA HYDROTITE O-ring prematurely. Installation of SIKA HYDROTITE O-rings in an expanded condition will severely reduce the effectiveness of the product.

Once installed, adequate measures should be taken to prevent exposure to rain water, ground water, etc., before SIKA HYDROTITE O-rings are embedded in concrete.

Limited Warranty: Sika® warrants its products to be free of manufacturing defects and that they will meet Sika's current published physical properties when applied in accordance with Sika's directions and tested in accordance with ASTM and Sika's standards. There are no other warranties by Sika® of any nature whatsoever expressed or implied, including any warranty of merchantability or fitness for a particular purpose in connection with this product. Sika® shall not be liable for damages of any sort, including remote or consequential damages resulting from any claimed breach of any warranty, whether expressed or implied, including any warranty of merchantability or fitness for a particular purpose or from any other cause whatsoever. Sika® shall also not be responsible for use of this product in a manner to infringe on any patent held by others.

Sika Corporation - US
201 Polito Avenue
Lyndhurst, NJ 07071
United States
Usa.Sika.com

For More Information Contact
Sika - St. Louis Sales Office
3400 Tree Court Industrial Blvd.
63122, St. Louis, MO
United States
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Phone: 1-800-325-9504
Fax: 800-551-5145

SIKA® HYDROTITE
PIPE PENETRATION INSTALLATION

Greenstreak

BUILDING TRUST

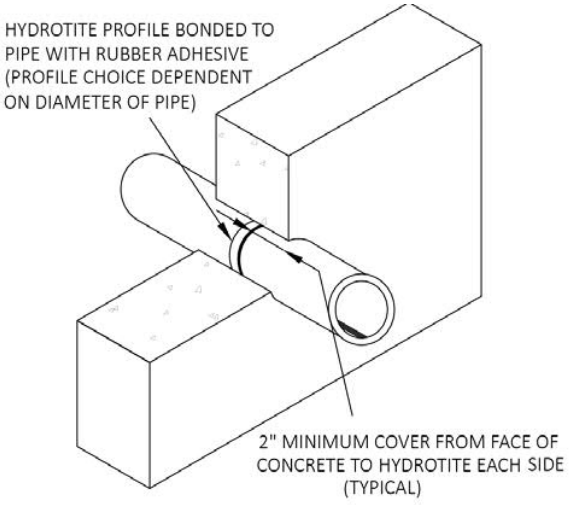
SIKA HYDROTITE – PIPE PENETRATION INSTALLATION
INFORMATION & INSTALLATION

INTRODUCTION

SIKA HYDROTITE is a state-of-the art hydrophilic waterstop. Comprised of a modified chloroprene rubber, SIKA HYDROTITE has unmatched durability and water sealing capacity. Expanding up to eight times its original volume when exposed to water, SIKA HYDROTITE conforms to gap variations along the joint. This action ensures complete sealing even under high hydrostatic head pressures. Due to its slim profile, excellent concrete consolidation can be expected around the waterstop, with little chance of the profile being moved out of position when concrete is placed. The small cross section allows most SIKA HYDROTITE profiles to be packaged in 10 to 25 meter rolls weighing less than 5 pounds. All SIKA HYDROTITE profiles are treated with a special delay coating to prevent them from reacting with water in fresh concrete and expanding before curing takes place. For best bonding results, SIKA HYDROTITE profiles should be applied to smooth, even surfaces, free of dirt, oil, or laitance. Maintain a minimum of 2" concrete coverage over SIKA HYDROTITE when using 3000 PSI or greater compressive strength concrete. Increase the coverage on reduced strength concrete or for SIKA HYDROTITE CJ-3030-M and CJ-1030-4M profiles.

INSTALLATION

New Construction: SIKA HYDROTITE CJ, SS, RS, DS, and DSS profiles may be used to seal pipe penetrations (SIKA HYDROTITE O-Rings may be used to seal pipe penetrations that are 1" diameter or less). The SIKA HYDROTITE profile should be cut to a length just slightly less than the circumference of the pipe to be sealed. This will allow for a snug fit of the profile once the installation is complete. Ends should be cut square with a sharp knife or shears. Apply SIKA HYDROTITE ADHESIVE to the pipe surface and to the waterstop. SIKA HYDROTITE CJ-1020-2K and CJ-07253K profiles are available with an optional peel-and-stick adhesive backing for fast and easy installation. Ensure that the location will satisfy the minimum requirement for concrete coverage.



Place several drops of a cyanoacrylate adhesive (i.e. Super Glue) to the ends of the SIKA HYDROTITE profile. Immediately wrap the profile around the pipe at the location of the contact adhesive and join the ends together. Hold tightly for approximately 30 to 45 seconds, allowing the adhesive to cure. Release the ends and allow the profile to constrict onto the pipe.

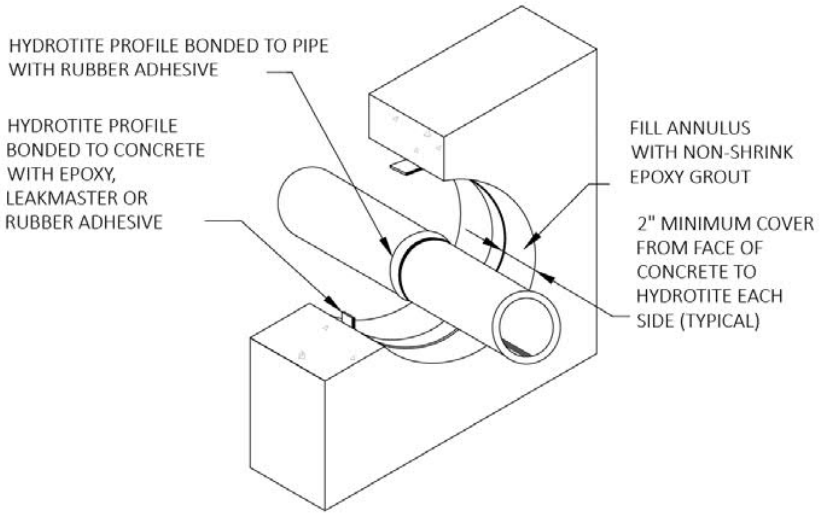
EXISTING WALL - NEW PIPE

Create an oversized cut out in the wall. Follow the procedure in the previous section for bonding SIKA HYDROTITE to the pipe. Adhere a second length of SIKA HYDROTITE to the inner circumference of the cutout, joining the ends with cyanoacrylate adhesive as described above. Use a SIKA HYDROTITE ADHESIVE if the surface is smooth and dry. A two component epoxy (such as SIKA GREENSTREAK EPOXY 7300) can be used to level rough surfaces and for bonding SIKA

HYDROTITE into position. Fill the annulus with a SIKA non-shrink grout after positioning both SIKA HYDROTITE profiles and the pipe.

IMPORTANT PRECAUTIONS

SIKA HYDROTITE profiles should be used primarily in site formed concrete joints where limited movement is expected. SIKA HYDROTITE protects a joint from water migration by creating a compressive seal within the joint. Joints with excessive movement may diminish this compressive seal and compromise the effectiveness of the waterstop.



While SIKA HYDROTITE can be wet-dry cycled many times, a constantly damp or wet environment is ideal.

In order to avoid concrete cracking caused by the expansion pressure of SIKA HYDROTITE, a minimum of 2" of concrete coverage is recommended. Increase this coverage if lightweight or low strength concrete (<3000 PSI compressive strength) is used, or for SIKA HYDROTITE CJ-3030-M or CJ-1030-4M profiles.

SIKA HYDROTITE should be stored in a cool, dark, dry place. Although SIKA HYDROTITE has a delay coating to inhibit premature expansion, care should be taken to limit exposure to moisture prior to installation and placement of concrete. If SIKA HYDROTITE is installed in an expanded condition, the effectiveness of the seal will be severely reduced.

Sika Corporation - US
201 Polito Avenue
Lyndhurst, NJ 07071
United States
Usa.Sika.com

For More Information Contact
Sika - St. Louis Sales Office
3400 Tree Court Industrial Blvd.
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United States
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Phone: 1-800-325-9504
Fax: 800-551-5145

Section:	03 25 20
#:	0006
Specified:	2.01.B.5.b., Hydrophilic Sealant
Reference:	view spec
Item submitted:	Hydrotite Adhesive

Hydrotite-Adhesive-Product-Data-1849230.PDF
Hydrotite-Adhesive-SDS-1852675.PDF

BUILDING TRUST

PRODUCT DATA SHEET

Hydrotite Adhesive

NEOPRENE HIGH PERFORMANCE CONTACT ADHESIVE

PRODUCT DESCRIPTION

Hydrotite Adhesive can be used to bond Sika® Hydrotite® swellable rubber waterstop profiles to hardened, cured concrete, steel, and many other smooth surfaces.

USES

For use in adhering Hydrotite Adhesive to smooth and dry surfaces.

CHARACTERISTICS / ADVANTAGES

- Long bonding range
- Excellent initial strength
- High heat resistance
- Hydrotite Adhesive meets the specification requirements of MMM-A-121 and MIL-A-21366A

PRODUCT INFORMATION

Packaging	4 gal./carton; 12 qts./carton
Appearance / Color	Gray/Green, Light Yellow **Base**: Polychloroprene
Shelf Life	When stored at the recommended conditions in the original, unopened container, Hydrotite Adhesive has a shelf life of 15 months.
Storage Conditions	Store product at 60-80°F (16-27°C) for maximum storage life. Higher temperatures can reduce normal storage life. Lower temperatures can cause increased viscosity of a temporary nature. Rotate stock on a “first in-first out” basis. **Conditioning**: For best results the temperature of the adhesive and surfaces to be bonded should be at least 65°F (18°C). If stored below 30°F (-1°C), warm-up to room temperature in a warm room only (do not exceed 120°F (49°C) followed by thorough agitation).
Density	Solilds content (by wt.): 23-27% Net weight (approx.): 6.6-7.0 lbs./gal.
Dimensions	Brookfield Viscometer: RVF #2 Sp. @ 20 rpm @ 80ºF (27ºF)

Thickness	200-450 cps

APPLICATION INFORMATION

Coverage	**Coverage (approx.) @ 2.5 gms (dry wt.)/ft^2:** 308 ft^2 per gallon
Curing Rate	Adhesive dries to a tacky condition in about 10 minutes. High humidity will slow drying while high temperatures will speed drying.

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

Remove all dust, dirt, oil, grease, wax, loose paint, etc. When applying to surfaces other than concrete, wiping with solvent such as Methyl Ethyl Ketone (MEK) will aid in preparing the surface for bonding*.

*When using solvents, extinguish all ignition sources, including pilot lights, and follow the manufacturer's precautions and directions for use. Strictly follow solvent manufacturer's warnings and instructions for use.

Mixing: Stir or agitate well before using for optimum results.

APPLICATION METHOD / TOOLS

Suggested Application Method(s): Spray, brush, roll or flow
Apply Sika® Hydrotite® Adhesive onto the substrate to which the Sika® Hydrotite® waterstop profile will be bonded. Application of Sika® Hydrotite® Adhesive should be slightly wider than the Sika® Hydrotite® waterstop profile being used. Then apply Sika® Hydrotite® Adhesive onto the Sika® Hydrotite® waterstop profile on the surface to be bonded to the substrate. Sika® Hydrotite® Adhesive is most easily applied with a brush or roller designed for use with oil-based paints.
Drying Time: The adhesive dries in about 10 minutes. High humidity will slow drying while high temperatures will speed drying. This adhesive has a bonding range of approximately 30 minutes when applied to both bond surfaces under conditions of 70°F (21°C) and 35% R.H. If the adhesive becomes too dry, apply another thin coat of adhesive to one surface, allow to become slightly tacky, and bond.
Relative humidity above 50% can cause blushing (condensation of moisture on surface) and a false bond. To avoid this, we recommend a force drying temperature of 180-220°F (82-104°C). Force drying will also help remove the solvent more rapidly.
Removal:
Removal of Sika® Hydrotite® Adhesive from inadvertently exposed surfaces (excluding concrete) can be achieved using Methyl Ethyle Ketone (MEK). Strictly follow solvent manufacturer's warnings and instructions for use.

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

OTHER RESTRICTIONS

See Legal Disclaimer.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

DIRECTIVE 2004/42/CE - LIMITATION OF EMISSIONS OF VOC

Flash point (T.C.C.): -14°F (-26°C)
Solvent: Petroleum distillate, acetone, MEK, toluene, n-hexane

LEGAL DISCLAIMER

- **KEEP CONTAINER TIGHTLY CLOSED**
- **KEEP OUT OF REACH OF CHILDREN**
- **NOT FOR INTERNAL CONSUMPTION**
- **FOR INDUSTRIAL USE ONLY**
- **FOR PROFESSIONAL USE ONLY**

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to

meet the technical properties on the current Product Data Sheet if used as directed within the product's shelf life. User determines suitability of product for intended use and assumes all risks. User's and/or buyer's sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

Sale of SIKA products are subject to the Terms and Conditions of Sale which are available at https://usa.sika.com/en/group/SikaCorp/termsandconditions.html or by calling 1-800-933-7452.

Sika Corporation
201 Polito Avenue
Lyndhurst, NJ 07071
Phone: +1-800-933-7452
Fax: +1-201-933-6225
usa.sika.com

Sika Mexicana S.A. de C.V.
Carretera Libre Celaya Km. 8.5
Fracc. Industrial Balvanera
Corregidora, Queretaro
C.P. 76920
Phone: 52 442 2385800
Fax: 52 442 2250537

1. Identification

Product name	:	Hydrotite Adhesive
Supplier	:	Sika Corporation
Address	:	201 Polito Avenue Lyndhurst, NJ 07071 USA www.sikausa.com
Telephone	:	(201) 933-8800
Telefax	:	(201) 804-1076
Emergency telephone	:	CHEMTREC: 800-424-9300 INTERNATIONAL: 703-527-3887 ehs@sika-corp.com
Recommended use of the chemical and restrictions on use	:	For further information, refer to the product technical data sheet.

2. Hazards identification

GHS Classification

Flammable liquids , Category 2	H225: Highly flammable liquid and vapor.
Skin irritation , Category 2	H315: Causes skin irritation.
Eye irritation , Category 2A	H319: Causes serious eye irritation.
Skin sensitization , Category 1	H317: May cause an allergic skin reaction.
Reproductive toxicity , Category 2	H361: Suspected of damaging fertility or the unborn child.
Specific target organ systemic toxicity - single exposure , Category 3, Central nervous system	H336: May cause drowsiness or dizziness.
Specific target organ systemic toxicity - repeated exposure , Category 2 (Inhalation)	H373: May cause damage to organs through prolonged or repeated exposure if inhaled.

GHS Label element

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H225 Highly flammable liquid and vapor.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H361 Suspected of damaging fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure if inhaled.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ eye protection/ face protection.
P281 Use personal protective equipment as required.
Response:
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Warning : Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

See Section 11 for more detailed information on health effects and symptoms.

3. Composition/information on ingredients

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
acetone	67-64-1	>= 20 - < 25 %
n-hexane	110-54-3	>= 10 - < 20 %
butanone	78-93-3	>= 10 - < 20 %
Toluene	108-88-3	>= 5 - < 10 %
colophony	8050-09-7	>= 1 - < 2 %

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Clean mouth with water and drink afterwards plenty of water.
Do NOT induce vomiting.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
Obtain medical attention.

Most important symptoms and effects, both acute and delayed : irritant effects
sensitizing effects

Respiratory disorder
Allergic reactions
Excessive lachrymation
Erythema
Dermatitis
Loss of balance
Vertigo
See Section 11 for more detailed information on health effects and symptoms.

Protection of first-aiders : Move out of dangerous area.
Consult a physician.
Show this material safety data sheet to the doctor in attendance.

Notes to physician	:	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	:	Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	Water High volume water jet
Specific hazards during fire fighting	:	Do not use a solid water stream as it may scatter and spread fire.
Specific extinguishing methods	:	Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Remove all sources of ignition. Deny access to unprotected persons. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
Environmental precautions	:	Prevent product from entering drains. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

7. Handling and storage

Advice on safe handling	:	Do not breathe vapors or spray mist. Avoid exceeding the given occupational exposure limits (see section 8). Do not get in eyes, on skin, or on clothing. For personal protection see section 8. Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is

being used.
Smoking, eating and drinking should be prohibited in the application area.
Take precautionary measures against static discharge.
Open drum carefully as content may be under pressure.
Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).
Follow standard hygiene measures when handling chemical products.

Conditions for safe storage : Store in original container.
Store in cool place.
Keep in a well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Store in accordance with local regulations.

Materials to avoid : no data available

8. Exposure controls/personal protection

Component	CAS-No.	Basis **	Value	Exposure limit(s)* / Form of exposure
acetone	67-64-1	ACGIH	TWA	500 ppm
		ACGIH	STEL	750 ppm
		OSHA Z-1	TWA	1,000 ppm 2,400 mg/m3
		OSHA P0	TWA	750 ppm 1,800 mg/m3
		OSHA P0	STEL	1,000 ppm 2,400 mg/m3
n-hexane	110-54-3	ACGIH	TWA	50 ppm
		OSHA Z-1	TWA	500 ppm 1,800 mg/m3
		OSHA P0	TWA	50 ppm 180 mg/m3
butanone	78-93-3	ACGIH	TWA	200 ppm
		ACGIH	STEL	300 ppm
		OSHA Z-1	TWA	200 ppm 590 mg/m3

		OSHA P0	TWA	200 ppm 590 mg/m3
		OSHA P0	STEL	300 ppm 885 mg/m3
Toluene	108-88-3	ACGIH	TWA	20 ppm
		OSHA Z-2	TWA	200 ppm
		OSHA Z-2	CEIL	300 ppm
		OSHA Z-2	Peak	500 ppm
		OSHA P0	TWA	100 ppm 375 mg/m3
		OSHA P0	STEL	150 ppm 560 mg/m3
zinc oxide	1314-13-2	ACGIH	TWA	2 mg/m3 Respirable fraction
		ACGIH	STEL	10 mg/m3 Respirable fraction
		OSHA Z-1	TWA	15 mg/m3 total dust
		OSHA Z-1	TWA	5 mg/m3 respirable fraction
		OSHA P0	TWA	10 mg/m3 Total
		OSHA P0	TWA	5 mg/m3 Respirable fraction
		OSHA P0	TWA	5 mg/m3
		OSHA P0	STEL	10 mg/m3
		OSHA Z-1	TWA	5 mg/m3 Fumes

*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

**Basis
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminat (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust

Engineering measures : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.
The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits.

Personal protective equipment

Respiratory protection : Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection
Remarks : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hygiene measures : Avoid contact with skin, eyes and clothing.
Wash hands before breaks and immediately after handling the product.
Remove respiratory and skin/eye protection only after vapors have been cleared from the area.
Remove contaminated clothing and protective equipment before entering eating areas.
Wash thoroughly after handling.

9. Physical and chemical properties

Appearance	:	liquid
Color	:	green gray
Odor	:	hydrocarbon-like
Odor Threshold	:	no data available
Flash point	:	-14.1 °F (-25.6 °C)
Ignition temperature	:	759 °F (404 °C)
Decomposition temperature	:	no data available
Lower explosion limit	:	1 %(V)
Upper explosion limit	:	12.8 %(V)
Flammability (solid, gas)	:	no data available
Oxidizing properties	:	no data available
Autoignition temperature	:	no data available
pH	:	Note: not applicable
Melting point/range / Freezing point	:	no data available
Boiling point/boiling range	:	> 176 °F (> 80 °C)
Vapor pressure	:	66.750 mmHg (88.9924 hpa)
Density	:	0.815 g/cm3
Water solubility	:	Note: slightly soluble
Partition coefficient: n-octanol/water	:	no data available
Viscosity, dynamic	:	no data available
Viscosity, kinematic	:	ca.> 20.5 mm2/s at 104 °F (40 °C)
Relative vapor density	:	no data available
Evaporation rate	:	no data available
Burning rate	:	no data available
Volatile organic compounds (VOC) content	:	<= 582 g/l

10. Stability and reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Stable under recommended storage conditions. Vapors may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	no data available

11. Toxicological information

Acute toxicity

Product

Acute oral toxicity	:	no data available
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available

Ingredients:

butanone :

Acute oral toxicity	:	LD50 Oral rat: 3,300 mg/kg
Acute inhalation toxicity	:	LC50 rat: 36 mg/l Exposure time: 4 h
Acute dermal toxicity	:	LD50 Dermal rabbit: > 5,000 mg/kg

Skin corrosion/irritation

Product

Causes skin irritation.

Serious eye damage/eye irritation

Product

Causes serious eye irritation.

Respiratory or skin sensitization

Product

May cause an allergic skin reaction.

Germ cell mutagenicity

Product

Mutagenicity : no data available

Carcinogenicity

Product

Carcinogenicity : no data available

IARC not applicable
NTP not applicable

Reproductive Toxicity/Fertility

Product

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

Reproductive Toxicity/Development/Teratogenicity

Product

Teratogenicity : no data available

STOT-single exposure

Product

Assessment: May cause drowsiness or dizziness.

STOT-repeated exposure

Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Product

Assessment: May cause damage to organs through prolonged or repeated exposure if inhaled.

Aspiration toxicity

Product

no data available

12. Ecological information

Other information Do not empty into drains; dispose of this material and its container in a safe way.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Component:

acetone	67-64-1	Toxicity to fish:

LC50
Species: Fish
Dose: > 5,000 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:
EC50
Species: Daphnia
Dose: 12.700 mg/l
Exposure time: 48 h

Toxicity to algae:
ErC50
Species: Pseudokirchneriella subcapitata (green algae)
Dose: > 530 mg/l
Exposure time: 96 h

13. Disposal considerations

Disposal methods

Waste from residues	:	Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	1133
Description of the goods	Adhesives
Class	3
Packing group	III
Labels	3
Emergency Response Guidebook Number	128

IATA

UN number	1133
Description of the goods	Adhesives
Class	3
Packing group	III
Labels	3
Packing instruction (cargo aircraft)	366
Packing instruction (passenger aircraft)	355
Packing instruction (passenger aircraft)	Y344

IMDG

UN number	1133
Description of the goods	ADHESIVES
Class	3
Packing group	III
Labels	3
EmS Number 1	F-E
EmS Number 2	S-D
Marine pollutant	no

DOT: For Limited Quantity exceptions reference 49 CFR 173.150 (b)
IMDG: For Limited Quantity special provisions reference IMDG Code Chapter 3.4

Special precautions for user
no data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not applicable

15. Regulatory information

TSCA list : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard
Chronic Health Hazard

SARA 302 : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

n-hexane	110-54-3	13.00 %
Toluene	108-88-3	5.00 %
zinc oxide	1314-13-2	1.00 %

Clean Air Act

Ozone-Depletion Potential This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

n-hexane	110-54-3	13.00 %
Toluene	108-88-3	5.00 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65 WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

16. Other information

HMIS Classification

Health	*	2
Flammability		3
Physical Hazard		0
Personal Protection		X

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

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