Product Data Sheet
Version 3/22/2011

Sika Firesil®-N

Alkoxy Cure Silicone with Low-Flame Spread Characteristics

Technical Product Data (typical values)

Chemical base		1-C silicone
Color		Light grey
Cure mechanism		moisture
Cure type		Alkoxy
Density (uncured) Typical		12lb/gal
Non-sag properties		Good
Application temperature	product	41°- 95°F (5°- 35°C)
Tack free time[1]		25 min
Curing speed		(see diagram 1)
Shrinkage		3%
Shore A-hardness		25
Tensile strength (ASTM D 412)		85 psi
Elongation at break (ASTM D 412)		300%
Movement accommodation factor (ISO 11 600)		+/- 25%
Service temperature Short term	permanent 4hours	320°F (160°C) 392°F (200°C)
Shelf life (storage below 80°F (27°C))		12 months

[1)] 73°F (23°C) / 50% r.h.

Description

Sika Firesil®-N represents a fire retardant one-component, fast curing silicone sealant, based on a non-corrosive curing system. The cured product provides a soft, elastic seal, with excellent resistance to fire even when directly exposed to a nearby heat source. Sika Firesil®-N meets 49CFR238 and NFPA 130 flammability and smoke emission requirements per the Federal Railroad Administration DOT 238. Sika Firesil®-N also meets the requirements of DIN 4102 B1 and the regulations set out by the International Maritime Organization (IMO). Sika Firesil®-N is manufactured in accordance with the ISO 9001/14001 quality assurance system.

Product Benefits

- One-part formulation
- Elastic
- Resists aging and weathering
- High fire resistance
- Bonds well to a wide variety of substrates

Areas of Application

General purpose sealant for applications requesting fire resistance according to 49CFR238 and NFPA 130 flammability and smoke emission requirements and DIN 4102 B1 and as sealing of gaps, cable ducts, grommets etc. where compliance with IMO 653 (16) is required.

This product is suitable for experienced professional users only. Tests with actual substrates and conditions have to be performed to ensure adhesion and material compatibility.

Industry

Cure Mechanism
Sika Firesil®-N cures by reaction with atmospheric moisture. At low temperatures the water content of the air is lower and the curing reaction proceeds more slowly (see diagram below).

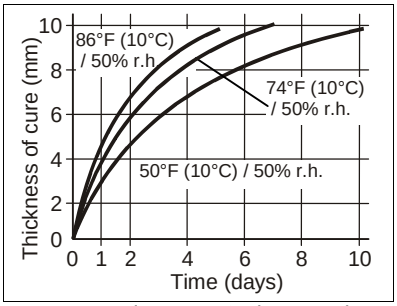

Diagram 1:Curing speed Sika Firesil®-N

Chemical Resistance
Sika Firesil®-N is resistant to UV radiation, fresh water, and seawater. Sika Firesil®-N has temporary resistance to fuels, mineral oils, and vegetable and animal fats and oils. Sika Firesil®-N is not resistant to organic acids, concentrated mineral acids, caustic solutions, and solvents. The above information is offered for general guidance only. For advice on specific applications contact your Sika Representative.

Method of Application
Surface preparation
Surfaces must be clean, dry and free from all traces of oil, grease, dust, rust and other contaminants. Do not apply to wet or damp surfaces. Nonporous substrates should be cleaned with solvent and a clean white lint free cotton cloth. Wipe dry immediately with another such cloth before solvent evaporates from surface. Strictly follow manufacturers instructions for use and warning statements. Mixing: For advice on selecting and setting up a suitable pump system please contact the Systems Engineering Department of Sika at tsmh@sika-corp.com.

Application
For advice on selecting and setting up a suitable pump system, as well as on the techniques of pump operated application, please contact the System Engineering Department of Sika Industry.

Tooling and finishing
Tooling and finishing must be carried out within the tack-free time of the sealant. Sika® Tooling Agent can be used. Finishing agents or lubricants must be tested for suitability and compatibility.

Removal
Uncured Sika Firesil®-N may be removed from tools and equipment with suitable solvents, such as isopropyl alcohol or acetone. Once cured, the material can only be removed mechanically. Hands and exposed skin should be washed immediately after use. Do not use solvents on hands! Strictly follow solvent manufacturer's instructions for use and warning statements.

Overpainting
Sika Firesil®-N cannot be overpainted.

Limitations
Sika Firesil®-N may become discolored when in contact with some organic elastomers such as EPDM, APTK, and Neoprene. Contact with natural stone should be avoided, as the sealant may cause staining. Extreme fluctuations in temperature, tensile or shear forces and water can negatively impact adhesion properties.

WARNING: IRRITANT, POSSIBLE SENSITIZER, POTENTIALLY FLAMMABLE. – Contains Bis (Ethylacetoacetato) Diisobutoxytitanium (CAS 83877-91-2), Trimethoxy Methylsilane (CAS1185-55-3). Releases methanol (CAS: 67-65-1) during moisture curing. Keep away from heat sparks, electrical equipment, flame and other ignition sources. **DO NOT SMOKE.** Methanol vapor released from uncured product in sufficient levels can cause narcotic effects up to coma and death. These vapors should not be inhaled for long periods or in high concentrations. Uncured product causes eye/skin/respiratory irritation. Reports have associated repeated and prolonged exposure to some of the chemicals in this product with eye, liver, kidney, nervous system and heart damage. Headaches and dizziness may result. Small amounts of formaldehyde vapors can form in presence of air in temperatures above 300°F. Can cause skin and respiratory sensitization. This product contains a chemical listed on the IARC Monographs as a potential carcinogen. **Deliberate concentration of vapors for purposes of inhalation is harmful and can be fatal.**

HMIS

Health	1
Flammability	1
Reactivity	1
Personal Protection	D

First Aid Measures:
Eyes: Hold eyelids apart and flush thoroughly with water for 15 minutes. **Skin:** Remove con-taminated clothing. Wash skin thoroughly for 15 minutes with soap and water. **Inhalation:** Remove to fresh air. **Ingestion:** Do not induce vomiting. Dilute with water. Contact physician. **In all cases contact a physician immediately if symptoms persist.**

Further Information
Copies of the following publications are available on our website **www.sikausa.com** or by contacting (tsmh@sika-corp.com)

- Material Safety Data Sheet
- Product Data Sheet

In case of emergency call:
Chemtrec: 800-424-9300
International: 703-527-3887

For further information and advice regarding transportation, handling, storage and disposal of chemical products, users should refer to the actual Material Safety Data Sheets containing physical, ecological, toxicological and other safety related data. It is highly recommended to read the actual Material Safety Data Sheet before using the product.

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

Packaging Information

Cartridge	10.3 fl. oz. (304 ml)

Value Basis
All technical data stated on this Product Data Sheet are based on the results of laboratory tests only. Actual measured data in the field may vary due to site specific conditions which are not known to Sika and beyond our control.

Further information available at:
www.sikausa.com

Sika Corporation
Industry Division
30800 Stephenson Highway
Madison Heights, Mi 48071
USA
Tel. 248 577 0020
Fax 248 577 0810

Handling & Storage
Keep away from heat, flame, sparks, electrical equipment or other sources of ignition. DO NOT SMOKE. Take precautionary measures against electrostatic charging. Vapors may form in closed rooms with air mixtures, leading to explosion in the presence of sources of ignition, even in empty, uncleaned vessels. Use only in well ventilated areas. Open doors and windows during use. **Remove contact lenses before using product.** Wash thoroughly after handling. Do not handle lenses until all product has been cleaned from fingertips, nails and cuticles. Residual product remains on fingers for several days and transfers to lenses causing severe eye irritation. **Do not use solvents.** Wear personal protective equipment (chemical resistant gloves/goggles/clothing) to prevent direct contact with skin and eyes. Use properly fitted NIOSH approved respirator if ventilation is poor. Remove contaminated clothing after use. Cured product can be handled without any risk to health. Shelf life is 12 months when stored under 80ºF (27°C) under dry conditions in tightly closed container. Do not expose to moisture. Spilled product may pose slipping hazard.

Cleanup
In case of spill, extinguish all sources of ignition. **DO NOT SMOKE**. Ventilate area. Wear chemical resistant clothing/ gloves /goggles to avoid contact with skin and eyes. In the absence of adequate ventilation, use a properly fitted NIOSH respirator. Remove spilled or excess product and place in a suitable sealed container. Keep spills away from sewers and open bodies of water. Dispose of excess product and container in accordance with applicable environmental regulations.

Limited Material Warranty
Manufacturer / Distributor 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 IMPLIED OR EXPRESS 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.

Legal Notes/Disclaimer
All information provided by Sika Corporation ("Sika") concerning Sika products, including but not limited to, any recommendations and advice relating to the application and use of Sika products, is given in good faith based on Sika's current experience and knowledge of its products when properly stored, handled and applied under normal conditions in accordance with Sika's instructions. In practice, the differences in materials, substrates, storage and handling conditions, actual site conditions and other factors outside of Sika's control are such that Sika assumes no liability for the provision of such information, advice, recommendations or instructions related to its products, nor shall any legal relationship be created by or arise from the provision of such information, advice, recommendations or instructions related to its products. The user of the Sika product(s) must test the product(s) for suitability for the intended application and purpose before proceeding with the full application of the product(s).

Sika reserves the right to change the properties of its products without notice. All sales of Sika product(s) are subject to its current terms and conditions of sale which are available at www.sikausa.com or by calling 201-933-8800.

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 Material Safety Data Sheet which are available at www.sikausa.com. Nothing contained in any Sika materials relieves the user of the obligation to read and follow the warnings and instruction for each Sika product as set forth in the current Product Data Sheet, product label and Material Safety Data Sheet prior to product use.

Further information available at:
www.sikausa.com

Sika Corporation
Industry Division
30800 Stephenson Highway
Madison Heights, Mi 48071
USA
Tel. 248 577 0020
Fax 248 577 0810