

PLIXXOPOL® SF 640090

Introduction & Application

The PLIXXOPOL® SF 640090 is the polyol component which contains water as a blowing agent, together with MDI component PLIXXONAT® N102 it forms a polyurethane system that is used to form a rigid foam of low density and open cells to be applied as a spray foam.

The material is processed using an airless spray technique and is mainly designed as a thermal insulation material for residential and common commercial constructions.

PLIXXOPOL® SF 640090 is compatible with most common construction materials and should be processed with the MDI component PLIXXONAT® N102.

The PLIXXOPOL® SF 640090 is covered by the European standard EN14315-1 if it is used as a SPF system.

Typical Characteristics

Polyol component PLIXXOPOL® SF 640090

Property	Method	Value
Colour	R-49	Light yellow
Specific gravity (20°C)	-	1,08 g/cm ³
Viscosity (25°C)	R-20c	145 mPa.s

* These values provide general information and are not part of the product specification.

MDI component PLIXXONAT® N102

Property	Value
Colour	Brown
Specific gravity (20°C)	1,23 g/cm ³
Viscosity (20°C)	200 mPa.s
NCO-content	31,5 % by weight

* These values provide general information and are not part of the product specification.

General Processing Instructions

Mixing ratio	Parts by volume
PLIXXOPOL® SF 640090	100
PLIXXONAT® N102	100

Recommended temperature ranges for processing

PLIXXOPOL® SF 640090	55 – 65 °C
PLIXXONAT® N102	55 – 65 °C
Hose temperature	55 – 65 °C
Substrate temperature	>5 °C

Pressure set proportioner

PLIXXOPOL® SF 640090	80 – 110 bar
PLIXXONAT® N102	80 – 110 bar

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Reaction profile determined in laboratory trials according to our internal method R17- 20°C

Cream time	4 s
Gel time	8 s
Tack free time	10 s
Fee rise density	9,0 kg/m ³

PLIXXOPOL[®] SF 640090 must be thoroughly homogenized prior to processing.

PLIXXOPOL[®] SF 640090 is a Spray Polyurethane Foam (SPF) intended for the insulation of residential and common commercial constructions by qualified contractors, trained in the processing and application of SPF systems, as well as the two-component polyurethane dispensing machines required for this purpose. Contractors and applicators must comply with all applicable and appropriate guidelines for processing, handling, storage and safety guidelines.

PLIXXENT sales or technical representative should be consulted in all cases where application conditions are questionable.

The foam density not only will depend on the existing conditions during the foaming but also on the spray method. The ambient temperature and humidity but also the type of substrate and its temperature are parameters of high importance in this application. For more information regarding the suitability of the substrate, please contact a PLIXXENT representative.

PLIXXOPOL[®] SF 640090 can be applied to stone-like materials, concrete, various types of wood and metals.

Porous surfaces shall not have a moisture content > 20 %. Non-porous substrates shall be checked to ensure that there is no surface condensation. In any case and before proceeding to start to spray, it is necessary to carry out a small adhesion test on the substrate to check that good adhesion will be obtained.

If there are doubts about the adhesion of the SPF to the substrate, for example metallic or -plastic surfaces. Please contact your PLIXXENT sales or technical representative

All to be sprayed substrates must be free from dirt, grease, oil and moisture prior to the application. Moisture in any form, like rain, fog, ice or a high air humidity (> 70% RH), will react chemically and will adversely affect system performance and corresponding physical properties. Application should not take place at an ambient temperature below 3 °C of the dew point. In case of the existence of expansion joints that could cause breaks in the foam due to the movement of the support, these joints shall be covered with a non-adhesive plastic tape.

Wind speeds from approximately 4 Beaufort (≥ 18 km/h) result in excessive loss of exotherm and interfere with the mixing efficiency, affecting foam surface, cure, physical properties and will cause overspray. Precautions must be taken to prevent damage to adjacent areas from overspray.

The next layer is to be applied after the previous layer has cooled down to approximately 30°C to prevent buildup of heat.

The obtained foam has a high content of open cells. When applying, the fresh foam can undergo a temperature increase. Under certain conditions, for example big volumes of foam, the foam can undergo autoignition.

Because of that, the applicator must assure that the applied volumes do not undergo foam autoignition. When bag shots are made to flush the machine, these bag shots should not have a diameter larger than 30 cm, also to prevent heat buildup.

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Mechanical Properties

PU foam based on the PLIXXOPOL[®] SF 640090

Property	Value	Unit	Method
Applied density	app. 15	kg/m ³	
Fire classification	F	--	DIN EN13501-1:2007 +A12009
Water permeability	1,55	Kg/m ²	EN 1609 method B3: 2013
Water vapour permeability	4,45	μ	EN 12086 method A: 2013

Thermal resistance according EN 14315-1:2013:

Type cachering: None or diffusion open.

Thickness	Declared aged thermal conductivity (λ_d)	Thermal resistance (R_d)
mm	W/m.K	m ² .K/W
30	0,037	0,80
35	0,037	0,95
40	0,037	1,10
45	0,037	1,20
50	0,037	1,35
55	0,037	1,50
60	0,037	1,60
65	0,037	1,75
70	0,037	1,90
75	0,037	2,05
80	0,037	2,15
85	0,037	2,30
90	0,037	2,45
95	0,037	2,55
100	0,037	2,70
105	0,037	2,85
110	0,037	2,95
115	0,037	3,10
120	0,037	3,25
125	0,037	3,40
130	0,037	3,50
135	0,037	3,65
140	0,037	3,80
145	0,037	3,90
150	0,037	4,05
155	0,037	4,20
160	0,037	4,30
165	0,037	4,45
170	0,037	4,60
175	0,037	4,75
180	0,037	4,85
185	0,037	5,00
190	0,037	5,15
195	0,037	5,25
200	0,037	5,40
250	0,037	6,75
300	0,037	8,10

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Storage, Handling & Preparation

The recommend storage temperature should be selected within 15 - 25°C. When stored in unopened original containers or drums in dry areas, PLIXXOPOL[®] SF 640090 has a shelf life of 4 months after production date.

Do not expose storage containers or drums to direct sunlight. Reclose opened containers tightly after each use.

Safety Instructions

The reaction product of PLIXXOPOL[®] SF 640090 with PLIXXONAT[®] N102 is an organic combustible product. There is a risk of fire in some applications when the material is exposed to fire and/or heat. Do not use welding or cutting equipment, fire and/or any source of ignition on or adjacent to the exposed foam.

When working with liquid polyols, isocyanates and/or with additives, wear suitable safety equipment in accordance with the potential health hazards involved. In addition, avoid direct skin contact with freshly manufactured polyurethane products, eg when handling or processing directly after demoulding. For more detailed information, refer to the Safety Data Sheets of the components processed and the Product Stewardship program of PU-Europe

Fire Performance Test

The methods described in this publication for testing the fire performance of polyurethane and the results quoted do not permit direct conclusions to be drawn regarding every possible risk there may be under service conditions.

Furthermore, this does not release the producer of the finished parts from his obligation to carry out suitable tests on his end product with respect to the fire performance and/or fire risk in order to guarantee conformity with the required fire safety standard.

Labelling & REACH Applications

This Technical Data Sheet is only valid in conjunction with the latest edition of the corresponding Safety Data Sheet. Any updating of safety-relevant information - in accordance with statutory requirements - will only be reflected in the Safety Data Sheet which will be revised and distributed. Information relating to the current classification and labelling, applications and processing methods and further data relevant to safety can be found in the currently valid Safety Data Sheet processed.

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Additional Requirements

Certificates		
Specific characteristics	Performance	Specifications
French VOC	A+	DEVL1101903D and
French CMR components	Pass	DEVL1104875A; March and april 2011
AgBB	Pass	AgBB feb-15, DIBT oct-10
Belgian Regulation	Pass	C-2014/24239, may-15
Indoor Air Comfort®	Pass	5.3a, march-15
EN 717-1§	E1	2004
BREAAM International	Compliant	GN22

The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations, are beyond our control. Therefore, it is imperative that you test our products, technical assistance, information and recommendations to determine to your own satisfaction whether our products, technical assistance and information are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by PLIXXENT. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale which are available upon request. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with any claim of any patent relative to any material or its use. No license is implied or in fact granted under the claims of any patent.

This product is not designated as „Medical Grade” and therefore shall not be considered a candidate for the manufacture of a medical device or of intermediate products for medical devices, which are intended under normal use to be brought into direct contact with the patient’s body (for example skin, body fluids or tissues, including indirect contact to blood). This product is also not designated for food contact, including drinking water, or cosmetic applications (as defined in Commission Regulation EU 1935/2004). If the intended use of the product is for the manufacture of a medical device or of intermediate products for medical devices, for food contact products or cosmetic applications PLIXXENT must be contacted in advance to provide its agreement to sell such product for such purpose. Nonetheless, any determination as to whether a product is appropriate for use in a medical device or intermediate products for medical devices, for food contact products or cosmetic applications must be made solely by the purchaser of the product without relying upon any representations by PLIXXENT.

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