



## PRODUCT DESCRIPTION

EXY 09 PLUS+® is a premium water-based spray polyurethane insulation foam with an open cell structure. The seamless insulation layer fills all hard-to-reach areas in the building structure and creates an air barrier, preventing penetration of hot and cold air into the building. It prevents mold growth and eliminates thermal bridges.

## Recommended product application

- walls
- reconstruction of the attics
- ceilings
- roofs
- timber buildings
- suspended ceilings
- vaulted ceilings
- attic
- passive buildings

## INTENDED USE

Suitable for insulation of roof structures (non-walkable) and walls, ceilings, partitions of passive and low-energy houses, timber buildings, etc. EXY 09 Plus+® can be applied both indoors and outdoors. Advantages: quick application, insulation of hard to reach places, does not require mechanical anchoring.

## PROCESSING CONDITIONS EXY 09 PLUS+®

The maximum thickness of a single spray-layer shall not exceed more than 15 cm of expanded foam. After the application of one spray-layer, the foam should be allowed to cool below 35°C before proceeding further, or until the surface temperature of the foam has dropped to ambient temperature. If the foam is applied over a thickness of 15 cm or the cooling time is not observed, it may result in temperature overshoot and subsequent fire or release of aggressive odors that dissipate over time. The substrate temperature shall be at least -5°C.

## APPLICATION PROCEDURE

The optimum pressure and temperature in the hose can vary depending on the environment, the type of equipment and the condition of the substrate. It is the responsibility of the application technician to properly set up the equipment according to the operator's manual, especially the information that relates to the proper procedure and selection of the insulating foam for the application.

Machine settings such as pressure, temperature and foam quality and adhesion, foam texture must be checked during the application period. The application technology of PUR foam must maintain a mixing ratio of 1:1 at a given pressure and temperature.

The substrate must not be greasy, wet, frozen or icy. The substrate must be firm, not crumbling and a substrate adhesion test must be performed.

**ATTENTION:** Special care must be taken when replacing new drums, reinstalling feed pumps to avoid mixing or contamination of the "A" and "B" components. Always use pumps from "A" again to the "A" drum and from the "B" to the "B" drum. **Do not add other materials from other manufacturers to the "A" and "B" components.**

Recommended technology settings	
Pressure (dynamic)	1000-1300 psi
Main heater	(45-54)°C
Hose temperature	(45-54)°C
Optimal material temperature in drums	(20-25)°C

Recommended pressure for mixing chambers			
00 (2929)	01 (4242)	02 (5252)	03 (6060)
800-1100psi 55-75 bar	800-1100psi 55-75 bar	1100-1450psi 75-100 bar	1450-1900psi 100-130 bar

## STORAGE, TEMPERATURE, PACKAGING

The shelf life of component A & B is 6 months at storage temperature 15-25°C.

It is important to prevent the components from being exposed to temperatures outside the specified ranges. The recommended temperature of the material in the application drum is 22°-25°C. The drums must be stored on pallets.

Component	Type of packaging	Weight
Component "B"	drum	230 kg
	IBC	1000 kg
Component "A"	drum	250 kg
	IBC	1000 kg

Note: IBC = intermediate bulk container

**WARNING:** The information presented in this document is not intended for use by non-professional applicators or persons who do not purchase or use this product for business. The potential user must perform all tests to determine the product's behavior and fitness for the use, as the final determination of the product's suitability for a specific application is the responsibility of the purchaser. HONTER® Company makes only those warranties and guarantees expressed in writing by the manufacturer.



## TECHNICAL PARAMETERS EXY 09 PLUS+®

Characteristic	Harmonised standard	Declared level/class
Thickness	EN 14315-1:2013	± 5 %
Initial value of thermal conductivity at 10°C*		$\lambda_{Di} = 0.034 \text{ W/m.K}$
Declared coefficient of thermal conductivity after aging ( $\lambda_D$ )* according to Annex J of the EN 14315-1:2013 standard and at a temperature of 10°C		$\lambda_D = 0.035 \text{ W/m.K}$
Reaction to fire		Class E
Reaction profile at 21°		NPD
Core free-rise density		13 - 18 kg/m <sup>3</sup>
Stability of reaction to fire during aging/degradation		The reaction to fire does not decrease with time according to Cl. 4.2.5.2 EN 14315-1
Stability of thermal resistance during aging/degradation		see Table 2 of Declaration of performance
Compressive strength stability during aging/degradation		NPD
Closed cell content		CCC1 (<20 %)
Water vapor diffusion - water vapor diffusion factor		$\mu \leq 11$
Short-term water absorption by partial immersion		NPD
Compressive stress at 10% strain		NPD
Compressive creep		NPD
Sound absorption - weighted sound absorption coefficient		NPD
Dangerous substances – emission VOC (EN ISO 16000-10)		Meets the requirement for the emission of VOC
Adhesion to the substrate perpendicular to the surfaces		NPD
Reaction to fire in standard assemblies simulating end use		NPD
Deformation under specified compressive load and temperature conditions Loading: 20 kPa; Temperature: (80±1)°C Time: (48±1)h		NPD
Dimensional stability (70±2)°C a RH (90±5)°C		NPD
Dimensional stability (-20±3)°C	NPD	

Note: NPD = No performance determined.

Note: \*Declared values were determined on the basis of measurements carried out by the Notified Body and internal measurements - on samples prepared under standard laboratory conditions. Parameters may vary depending on the substrate and application technique.

## HANDLING AND SAFETY

**Respiratory protection is mandatory!** HONTER® requires the use of protective equipment, a full face mask with air supply during any foam application and for two hours after completion. Active ventilation is also required to ensure proper air exchange.

**Component “A” contains reactive group of isocyanate, ventilation must be provided in the workplace during handling.** Avoid inhalation of vapors and exposure to substances. Open drums slowly so that any pressure is slowly and safely released. Always wear protective equipment and follow safety instructions when handling or working with these materials. During, after application, the area must be actively ventilated to ensure proper ventilation of vapors from the PUR foam application! During application the area must not be occupied by other persons, only by a trained application technician. Air conditioning and ventilation for at least 24 hours after application is important and must not be neglected. For this PUR foam system avoid incorrect application procedure. This includes:

excessive thickness of the sprayed growing foam, disproportionate mixing of the material, incorrect processing temperature of the substances. Improperly applied materials can cause excessive temperature rise where a fire can occur or an aggressive odor that may not dissipate over time – air out. The foam sprayed in this way may have poor properties due to improper processing of chemicals or a large thickness of material applied at the same time! Excess masses that are generated should be removed from the area, cut into small pieces and allowed to cool before disposal. Failure to follow this recommendation may cause a fire. The applicator must ensure workplace safety at the application site. All construction personnel should be made aware that PUR foam application is taking place by appropriate markers and that all work such as welding, soldering, cutting etc. should take place at least 15 m away from where the PUR foam is being applied.

To the best of our knowledge, the technical data contained herein is true and accurate as of the date of publication and is subject to change without notice. The application company is responsible for the correct procedure and use of the product. No warranty is given or implied. We guarantee that our products pass the quality control of HONTER® Company. We assume no responsibility for insurance, performance or damage caused by use.