Polyfoam DS-45P

Three Component, Polyurethane Foam System

Polyfoam DS-45P is pentane-based system developed to produce rigid polyurethane foam for continuous line manufacturing of Aluminium Flexi-faced duct board system.

CHARACTERISTICS

- Continuous Process
- N-Pentane Blowing Agent (Added at customer end)
- Density approx.: 45 Kg/m^3.

CFC free

DESCRIPTION

Polyfoam DS 45P is three component system developed to produce core rigid foam for continuous line manufacturing of Aluminium Flexi-faced duct board system. The system is designed to be used with N-pentane as blowing agent. Boards of 20 mm can be produced with densities approx.: around 45 kg/m^3. Quantity of pentane is added by the customer during process to get the required densities.

FIELDS OF APPLICATION

– 20mm Duct Board

COMPONENTS PROPERTIES

MDI component is a dark brown colored, undistilled grade of polymeric diphenyl methane di-isocyanate (crude M.D.I).

– Viscosity @ 20°C. : 150 - 200 cps
– Specific gravity @ 20°C - 1.24
– NCO content, % wt. - 30-31 (Expiry – 6 months from production date)

Polyol Component is a blend of polyols, catalysts, and surfactant

– Viscosity @ 20°C is approx.800 - 12000 cps.
– Specific gravity @ 20°C: 1.18 (Expiry - 6 months from production date)

STORAGE AND HANDLING:

Store at room temperature in sealed drums. Moisture will react with this component to produce a surface skin of polymerized material. Protect from moisture and moisture vapour. Close all drums after use. Maximum permissible storage time is 6 months. The ideal storage temperature is between +20°C and +25°C. MDI may undergo partial crystallization at temperature below 0°C. The product can, however, be brought back into the liquid state by placing the container in a heating cabinet and carefully warming the entire contents for a short time to a maximum of 70°C. Polyol might store at room temperature (below 25°C.) in sealed drums. Close all drums after use to prevent absorption of moisture.

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Safety goggles, impermeable protective gloves and overalls should always be worn when handling this product. Contaminated clothing should be removed immediately to prevent further skin contact.

MIX RATIO

Typical reaction rate and density (laboratory, cup mix)

PolyFoam DS 45P	PBW	30.0
N-Pentane	PBW	3.3
PolyFoam MDI	PBW	57.0

Three components are mixed at 20°C @3000 RPM.

– Cream Time: 10 - 14 sec.
– Gel Time: 38 - 45 sec.
– Tack Free Time: 43 - 55 sec.
– Free Rise Density: 29 - 31 kg/m3

Reactivity and density may vary depending upon ambient temperature.

Formulation When Processing in Machine:

PolyFoam DS 45P	PBW	100
N-Pentane	PBW	11
PolyFoam MDI	PBW	190

*However, slight formulation adjustment might be required while running the line to achieve the requirement of the customer.

Quality for Professionals

The temperature of the raw material components should be approx. 23 °C. The laminating tunnel must be preheated to approx. 50-55 °C.

NOTE

The following must be considered when handling Isomers of pentane:

It is extremely flammable and can form explosive mixtures with air. Since it is heavier than air, it can accumulate on the floor or nearby place or shafts. Therefore, avoid and keep the ignition sources far away as possible. Always to keep the safety data sheet of the pentane supplier, the instructions of the device manufacturer (about earthing and explosion protection) and the requirements in the plant permit issued by the local authorities.

SUPPLY

Polyfoam DS 45P	220 Kg drum
Polyfoam MDI	250 Kg drum

TYPICAL MECHANICAL PROPERTIES WHEN WELL PROCESSED

PARAMETERS	UNIT	VALUE
Density	Kg/m^3	45
Compressive Strength	KPa	≥100
Thermal Conductivity	W/m °K	<0.024
Dimensional Stability at -20°C	%	Max 2.5
+25°C		
+70°C		
Closed Cell	%	≥90

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