

# Polyfoam CPS-40P

## 4 component PIR system

CPS-40P is Mid Index PIR polyol developed for continuous line manufacturing of metal-faced sandwich panels.

### CHARACTERISTICS

- ▶ Continuous Process
- ▶ PIR
- ▶ N-Pentane Blowing Agent.

### DESCRIPTION

Polyfoam CPS-40P is four component PIR system developed for continuous line manufacturing of metal-faced sandwich panels. The foam produced has increased resistance to burning and spread of flame. The system is designed to be used with N-pentane as blowing agent.

Panels of 50 to 100 mm can be produced with densities between 40 and 45 kg/m<sup>3</sup>. However, necessary process adjustments for thickness variation needs to be done at the customer end. Polyfoam CPS-40P can achieve a B2 flammability rating to DIN 4102.

### FIELDS OF APPLICATION

- PIR Sandwich Panels

### 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 CPS-40P	PBW	50
Catalyst	PBW	1.0
N-Pentane	PBW	4.5
PolyFoam MDI	PBW	90

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

- Cream Time: 12 - 15 sec.
- Gel Time: 45 - 55 sec.
- Free Rise Density: 33 - 36 kg/m<sup>3</sup>

Reactivity and density may vary depending upon ambient temperature

### FORMULATION WHEN PROCESSING IN MACHINE

PolyFoam CPS-40P	PBW	100
PolyFoam CAT 6908	PBW	2
N-Pentane	PBW	9
PolyFoam MDI	PBW	180

\*However, slight formulation adjustment might be required during processing to achieve customer requirement.

## 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.

## TYPICAL MECHANICAL PROPERTIES WHEN WELL PROCESSED

PARAMETERS	UNIT	VALUE
Density	Kg/m <sup>3</sup>	40-45
Compressive Strength	KPa	≥100
Thermal Conductivity	W/m °K	<0.024
Dimensional Stability at -20°C +25°C +70°C	%	Max 2.5
Closed Cell	%	≥90
Fire Behavior	mm	B2 < 150

## SUPPLY

Polyfoam CPS-40P	220Kg drum
Polyfoam MDI	250Kg drum
PolyFoam CAT 6908	180Kg drum

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