



DUNAPOL® C 224 L

Rev. N°6 - Date 04/30/2019

Description

Two-component polyurethane system suitable to obtain a rigid foam

Blowing agents: Carbon Dioxide

Ozone Depletion Potential: 0

Typical characteristics - Polyol

Component Name			Polyol DUNAPOL® C 224 L
Density (25°C/77°F)	ASTM D891	lb/ft ³ (g/l)	67.4 (1080)
Viscosity (25°C/77°F)	ASTM D2196	P (mPa s)	9.6 (960)
Storage temperature		°F (°C)	50-95 (10-35)
Shelf Life		Months	6
Appearance			Dark green liquid

Typical characteristics - Isocyanate

Component Name			Isocyanate DUNAPOL® A 310
Density (25°C/77°F)	ASTM D891	lb/ft ³ (g/l)	74.9-77.4 (1200-1240)
Viscosity (25°C/77°F)	ASTM D2196	P (mPa s)	1.8-2.6 (180-260)
Storage temperature		°F (°C)	50-95 (10-35)
Shelf Life		Months	6
Appearance			Brown liquid

Mixing Ratio

Mixing ratio by weight POL/ISO	parts	100/100
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Typical characteristics of reaction

Components temperature		°F (°C)	70 (21)
Cream time		h min' sec"	1'10"±5"
Gel time		h min' sec"	5'50"±20"
Free rise density	EN 1602/ASTM D1622	lb/ft ³ (kg/m ³)	10.3 (165)

Characteristics of the polymer (int. procedure DU/25)

Applied density	EN 1602/ASTM D1622	lb/ft ³ (kg/m ³)	16.2 (260)
Minimal core density	EN 1602/ASTM D1622	lb/ft ³ (kg/m ³)	>14.0 (>224)
Compressive resistance – Parallel (23°C/73°F)	EN 826/ASTM D1621	psi (kPa)	595 (4100)
Compressive resistance – Parallel (-165°C/-265°F)	EN 826/ASTM D1621	psi (kPa)	1827 (12600)
Tensile strength - Parallel (-165°C/-265°F)	EN 1607/ASTM D1623-A	psi (kPa)	493 (3400)
Tensile strength - Parallel (23°C/73°F)	EN 1607/ASTM D1623-A	psi (kPa)	450 (3100)
Closed-cell content	ASTM D6226	%	>95
Thermal conductivity - Initial (10°C/50°F)	ASTM C518	BTU·in/hr·ft ² ·°F (W/mK)	0.27 (0,039)
Thermal conductivity - 180 days (10°C/50°F) (25 mm thickness sample aged 180 days at 23°C/73°F, 50% R.H.)	EN 12667/ASTMC518/ASTM C177	BTU·in/hr·ft ² ·°F (W/mK)	0.32 (0,045)

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Fire reaction (maximum extent of burnt length)	EN ISO 3582	inches (mm)	0.7 (17)
Fire reaction (extinguishing time)	EN ISO 3582	s	30
Fire reaction	DIN 4102	Class	B2
Fire reaction	UL 94	Class	HBF
Fire reaction	EN 13501	Euroclass	E
Coefficient of linear thermal expansion CTE (-196°C/+23°C, -321°F/+73°F)	EN 13471/ASTM D696	1/°F·10 ⁻⁶ (1/K·10 ⁻⁶)	27.8 (50)
Coefficient of thermal stress resistance CTSR (-165°C/+23°C, -265°F/+73°F)	CINI 2.7.01		2.4
Operating temperature		°F (°C)	-328/212 (-200/+100)
Leachable chlorides	ASTM C871	ppm	<60
pH	EN 13468/ASTM C871		6-7
Shrinkage after demolding		%	<1
Water absorption by volume	ISO 2896/EN 12087/ASTM D2842	%	0.5
Water vapor transmission rate (23°C/73°F, 50% R.H.)	EN 12086/ATM E96	grains/h·ft ² (g/m ² ·h)	1.144 (0.8)

Handling notice

In order to obtain the best results, thermostatic conditioning of components is essential.

Wherever possible apply products in ventilated areas, wearing gloves, protective eyewear, barrier creams and suitable protective clothes. Avoid contact with unhardened materials.

In case of accidental contact with the skin, wash with lukewarm water and soap for at least 10 minutes. Do not wash affected areas with solvents as this may increase contamination.

In some applications polyurethane may present fire risks, e.g. if exposed to fire or to excessive heat in presence of oxygen or air, including when welding or cutting with torches.

Lifetime of products is referred to materials stored in sealed containers in dry rooms, at recommended temperatures and protected from direct sunlight.

The expiry date is printed on the packaging.

Data coming from tests performed in laboratory, with components at the indicated temperature; manual mixing with a mechanical mixer at 1500-2500 rpm, in free rise in box/glass or in closed mold at the suggested temperature.

It is the Customer's responsibility to determine if product described herein is appropriate for Customer's purposes and end-use and to ensure that working place, storage and disposal practices are in compliance with any applicable law.

Remarks

For usage information, personal protective equipment, transport, storage and disposal of waste it is essential to refer to the Material Safety Data Sheets.

Values shown are determined from laboratory tests and obtained under controlled conditions; they outline typical characteristics and they do not constitute anyhow a sales specification; they are based on DUNA-USA's current knowledge and experience of the products when properly stored, handled and applied in accordance with our recommendations.

This Technical Data Sheet cancels and replaces any other previous issue.

DUNA-USA Inc. does not accept responsibility for incorrect use of its products as it cannot ensure the correct methods of application have been followed; we therefore specifically disclaim any liability for consequential or incidental damages of any kind, including lost profits.

DUNA-USA Inc. reserves the right to change the data in this information sheet without any prior notice.