

## TECHNICAL DATA SHEET

### DuromerSystem PU-31

## Isocianato PU-31

### DESCRIPTION

Two-components rigid polyurethane system of high reactivity, low viscosity and free of blowing agents.

It is used for the production of moulded pieces with density about 1000-1300 g/cc, the system exhibits high hardness and good physical and mechanics properties

### COMPONENTS

COMPONENT A: Polyol PU-31  
Mixture of polyols containing stabilizing agents

COMPONENT B: Isocianato PU-31  
MDI (Methylene diphenyl diisocyanate)

### USES

This system is fluid at normal temperatures; it can be processed between 20 and 30°C. The product exhibits a high reactivity at room temperature, and it is suitable for open cast, rotational cast and cast get by low-pressure injection, achieving products undergone to high mechanical performances.

This system can be easily reinforced with fibre (glass, polyethylene, inorganic charges, etc.) in order to considerably improve its structural properties, mainly resistance to temperature of deformation and to impact. The usual application is the manufacturing of figures, moulded pieces, arms, blocks, pieces of toys, moulds, cases, frames, miniatures, prototypes, etc.

### CONDITIONS OF USES

The system can be produced both in high pressure machines (100-150 bar) as low-pressure machine and also manually.

The recommended temperature of the components is  $22 \pm 2^\circ\text{C}$ . The recommended temperature of the moulds is 40-45°C.

Before loading component A (polyol) into the machine, the component must be homogenize for 5-10 minutes with a suitable mixer.

### COMPONENTS CHARACTERISTICS

Characteristics	Units	POLIOL PU-31	ISOCIANATO PU-31
Specific weight 20°C	g/cm <sup>3</sup>	1.22	1.10
Viscosity	cPs	75-125 (25°C)	0-80 (22°C)
NCO content	%	-	19-19,5

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### SYSTEM SPECIFICATIONS

Measurement carried out in a test recipient at 22°C and at the mix ratio indicated within the company's standard method (MAN - S07).

Characteristics	Units	ISOCIANATO PU-31
Weigh parts polyol	g	100
Weigh parts isocyanate	g	100
Work Time	s	90
Tack Free Time	s	100
Free density	g/l	1180

### FOAM SPECIFICATIONS

Characteristics		Units	ISOCIANATO	PU-31
Density	DIN 53420	Kg/m <sup>3</sup>		1150
SHORE Hardness	DIN 53505	ShD		75
R. Flexion		Kg/cm <sup>2</sup>		500
Arrow	DIN 53452	Mm		12
Tensile strength		Kg/cm <sup>2</sup>		350
Elongation	DIN 53504	%		9
Rebound	DIN 53573	%		60
Contraction mould		%		< 3
Bending test (gmctzzz001)		mm		< 30
Temperature 80°C 30 min.		mm		30
(specimen thickness 3-4 mm).....60 min				
Calcinations residue	DIN 53395	%		0.6

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#### DIELECTRIC PROPERTIES

Characteristics		Units	ISOCIANATO PU-31
Dielectric constant 20 °C	1000 cycles	-	2.2
Dielectric Strength 23 °C		Kv / cm	150–200
Power Factor	1000 cycles	%	0.02
Electrical Resistivity		Ohms / cm	$1.8 \times 10^{13}$

#### STORAGE RECOMMENDATIONS

Components A and B are sensitive to moisture, and should be stored in sealed drums or tanks. Storage temperature must be kept between +15 and +25 °C.

Avoid lower temperatures that may build up crystallizations in the isocyanate, as well as higher temperatures that may alter the polyol.

Properly stored, the shelf life is 6 months for the Component A (polyol) and 3 months for the isocyanate 5561.

#### SAFETY RECOMMENDATIONS

Appropriated handled, the system does not present significant risks. Avoid contact with eyes and skin.

The instruction given in the Safety Data Sheet must be followed during manufacturing and handling of the system.

#### SUPPLY

Normally, the product is supplied in non-returnable steel drums of 220 litres (blue for the Component A and black for the Component B).