

# VACUUM CASTING SYSTEMS

## VACUUM CASTING SYSTEMS

### UPX 8400:

- 3 components to cover all A shore range
- Low viscosity
- Easy to tint

### PX 212:

- Filled PP similarity
- Perfectly suitable for automotive parts
- High impact resistance
- Two reactivity available



Front light lens  
made by PX 5212

## SOFT TO SEMI-RIGID SYSTEMS

Component	POLYOL	A	PX 761	UPX 8400	PX 205	PX 212	PX 1000
Component	ISOCYANATE	B	PX 761	UPX 8400	PX 205	PX 212-225	PX 1000 /215
Mixing ratio	[g]	A	45	100	50	100	100
		B	100	100	100	100	100
Colour			amber	off-white	amber to dark amber	translucent	off-white
Characteristics			fast demoulding; high reproduction accuracy; «moulded rubber» aspect; abrasion resistance; max. peak temperature: 100°C	3 components for variable hardness; fixed mix ratio in between polyol & Isocyanate; easy to tint; low silicone moulds aggressiveness	very good impact resistance; quick hardening; thermoplastic aspect; easy processing	low viscosity for easy casting; excellent impact resistance; fast demoulding	low viscosity; long potlife; good mechanical properties; can be painted
Applications			soft technical parts under vacuum process	prototype and short series of soft parts to cover all A shore range. Fully compatible with ESSIL 291 silicone moulds	parts with high impact and abrasion resistance. Hinge effect	thermoplastic-like parts with a flexural modulus of elasticity close to filled PP	cast by hand or vacuum machine to achieve ABS type large parts
<b>Processing data (approx. values)</b>							
Mixed viscosity	[mPas]		1,500	-	1,600	800	100
Potlife	[min]		8 - 12	9 - 15	12 - 15	4 - 6	15 - 20
Demoulding time	[min]		60 - 90	90 - 120	60	60 - 75	240
<b>Physical Data (approx. values)</b>							
Density	[g/cm <sup>3</sup> ]		1.02	1.10	1.08	1.15	1.06
Shore hardness			A 63	A 30 - A 95	D 70	D 76	D 78
E-Modulus	[MPa]		-	-	500	1,200	1,700
Tensile strength	[MPa]		-	-	25	40	38
Flexural strength	[MPa]		-	-	30	80	67
Elongation at break	[%]		1,000	430	100	25	4
Impact strength	[kJ/m <sup>2</sup> ]		-	-	Unbreakable	> 50	25
HDT	[°C]		-	-	55	78	-
T <sub>c</sub>	[°C]		-	-	90 - 100	90	75



**PX 226:**

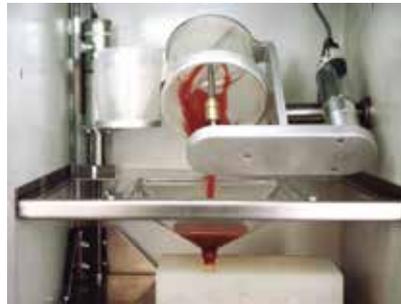
- Filled ABS or Nylon similarity
- Household appliances; electrical components production
- Excellent ratio pot life/demoulding time
- Two reactivity available

**PX 245:**

- Stiffer product on the market
- Filled polyamide similarity
- High rigidity parts like electronic devices casings



Pigmented stiff housing part



Vacuum casting process provides parts with best visual appearance and highest mechanical properties

**TOUGH-HARD TO STIFF SYSTEMS**

Component	POLYOL	A	PX 220	PX 225 OP	PX 226 – PX 245	PX 226L – PX 245L	VG280	PX 226 – PX 245	PX 226L – X245L	
Component	ISOCYANATE	B	PX 220-1	PX 212 / 225	PX 226		G55	PX 245		
Mixing ratio	[g]	A	50	80	50		80	40		
		B	100	100	100		100	100		
Colour			off-white	opalescent	white		yellowish-translucent	off-white		
Characteristics			high reproduction accuracy; can be easily pigmented with colouring CP; high impact resistance	good impact and flexural resistance; very easy coloring with all kind of pigments (non water based) like AXSON CP range	good impact and flexural resistance; Available in 2 reactivity; High thermal resistance; Can be easily coloured with CP pigments		very stiff, high flexural strength, impact resist., simulates ABS, PVC	high flexural modulus of elasticity; high reproduction accuracy; available in two reactivity; can be easily coloured with CP pigments; fast demoulding		
Applications			prototype parts and mock-ups with mechanical properties similar to thermoplastics such as HIPS	thermoplastic-like parts with a flexural modulus of elasticity close to 2,500 MPa (ex: polycarbonate, ABS).	prototype parts and mock-ups with mechanical properties similar to thermoplastics like filled ABS		very stiff housings with high strength and impact resistance	prototype parts with mechanical properties similar to thermoplastics like polyoxymethylene and polyamide		
<b>Processing data (approx. values)</b>										
Mixed viscosity	[mPas]		450	600	2,000		600	2,200		
Potlife	[min]		4 – 5	4 – 5	4	7.5	4	4	8	
Demoulding time	[min]		30 – 40	45	25	60	60 – 90	45	60	
<b>Physical Data (approx. values)</b>										
Density	[g/cm <sup>3</sup> ]		1.18	1.20	1.20		1.1	1.22		
Shore hardness			D 80	D 85	D 82		D 84	D 85		
E-Modulus	[MPa]		2,000	2,500	2,500		2,800	4,500		
Tensile strength	[MPa]		60	70	70		75	85		
Flexural strength	[MPa]		100	110	105		120	150		
Elongation at break	[%]		7	9	15		7	3		
Impact strength	[kJ/m <sup>2</sup> ]		75	50	70		> 100	30		
HDT	[°C]		72	-	92		80	92		
T <sub>c</sub>	[°C]		90	100	105		-	95		

**PX 5213:**

- New transparent casting resin
- All parts with optical properties
- UV and weather resistant
- Casting up to 100 mm

**PX 223 HT:**

- Leader on the market
- Low aggressiveness on silicone moulds
- Temperature and thermal resistance



Jewelry articles made of  
transparently pigmented  
PX 5213

## TRANSPARENT OR SPECIFIC USE SYSTEMS

Component	POLYOL	A	PX 5212	PX 5213	PX 223 HT	PX 234 HT	PX 234 HT LS	PX 280	PX 330
Component	ISOCYANATE	B	PX 5210		PX 223 HT	PX 234 HT		PX 280	PX 330
Mixing ratio	[g]	A	50	62	80	50		80	100
		B	100	100	100	100		100	100
Colour			transparent	transparent	black	light amber		off-white	off-white
Characteristics			high transparency (water clear); easy polishing; high reproduction accuracy; good U.V. resistance; easy processing; high stability under temperature		low viscosity for easy casting; good impact and flexural resistance; temperature resistance above 120°C	good thermal resistance up to 190°C; low viscosity; fast demoulding; good impact resistance; two pot lifes available; colourable		compliance with directive 2002/72/CE; compliance with directive 2007/19/CE regarding food contact; compliance with FDA 21 CFR 177.2600 regulation for repeated use; good mechanical properties	fast demoulding; good thermal properties; self-extinguishing FAR 25 certified, UL 94 V0 in 3 mm; can be easily coloured with CP pigments
Applications			transparent parts until a 10 mm thickness: crystal glass like parts, fashion, jewellery, art and decoration parts, lenses for lights	transparent parts until 100 mm thickness: crystal glass like parts, art and decoration parts	universal system to match ABS type thermoplastic when temperature resistance is required. Good chemical resistance.	all parts with very good thermal resistance such as: PA6.6, PPS, PEEK		could be cast by hand, 2K or vacuum machine to achieve ABS type parts. Could be used for parts in contact with aqueous, acid and greasy foods. None homologated for liquid contact	all parts in general industry or aeronautic when requiring a fire classification
<b>Processing data (approx. values)</b>									
Mixed viscosity	[mPa·s]		500	500	850	250		450	1,000
Potlife	[min]		8	20	6 - 7	5	8	20	5 - 7
Demoulding time	[min]		60	45	45 - 75	60	90	120	45
<b>Physical Data (approx. values)</b>									
Density	[g/cm³]		1.06	1.06	1.14	1.19		1.19	1.35
Shore hardness			D 85	D 86	D 80	D 80		D 85	D 87
E-Modulus	[MPa]		2,400	2,100	2,300	1,850		2,800	3,400
Tensile strength	[MPa]		66	68	60	61		75	70
Flexural strength	[MPa]		110	100	80	80		117	115
Elongation at break	[%]		7.5	6	11	13		5	3
Impact strength	[kJ/m²]		48	42	> 60	41		25	30
HDT	[°C]		80	85	110	190 - 195		-	-
T <sub>g</sub>	[°C]		95	100	> 120	220		80	100