

## PMMA RESINS/ Product Portfolio Overview

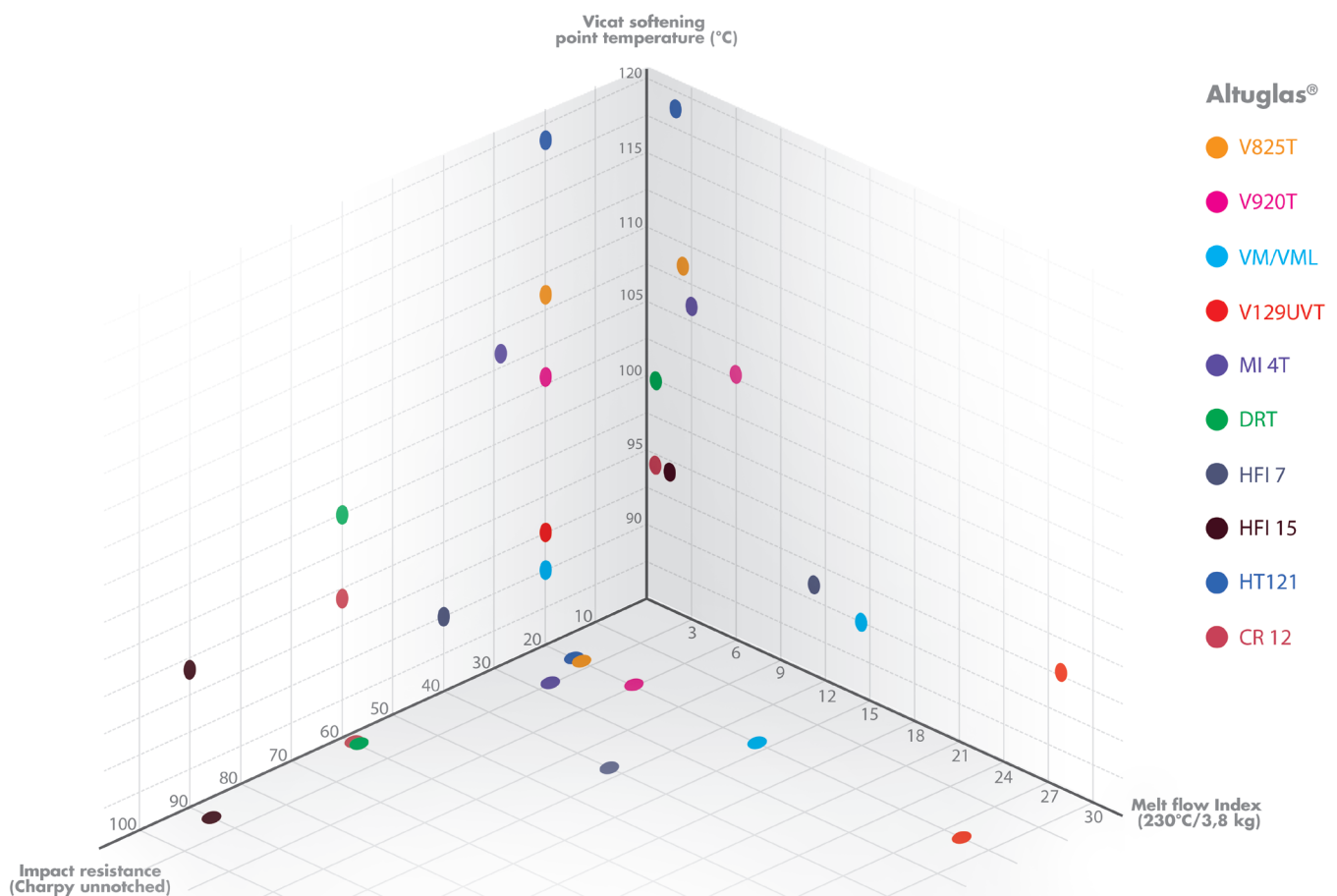
### ALTUGLAS INTERNATIONAL: CREATIVE AND INNOVATIVE SOLUTION PROVIDER

**The right resin for every job: from standard grades to high added value resins, you will always find the solution in our product range.**

- The Altuglas International family of acrylic thermoplastic resins offer an ideal combination of performance properties and value. Excellent optical clarity, exceptional weatherability, premium aesthetics and design flexibility are the key benefits for manufacturing high added value parts through both injection or extrusion processes.
- These resins are available in many grades and colors to meet your specific applications.
- Assemblies can be drilled, machined, engraved or embossed. Decorative coatings can be sprayed, silk-screened, hot stamped, vacuum metallized or chrome plated.

No matter what the job is, Altuglas International has an acrylic resin that's exactly right.

#### Quick properties overview:



Altuglas® resins are broadly used with success in numerous markets such as Automotive & Transportation, Lighting, Building & Construction, Consumer Goods & Design, Home & Household Appliance, Medical...

STANDARD GRADES										IMPACT GRADES					SPECIALTY GRADES		
	Altuglas® V046	Altuglas® V825T	Altuglas® V920T	Altuglas® VM/VML	Altuglas® V129UVT	Altuglas® MI 4T	Altuglas® MI 7T	Altuglas® DRT	Altuglas® HFI 7	Altuglas® HFI 10	Altuglas® HFI 15	Altuglas® HT121	Altuglas® CR 8	Altuglas® CR 12			
THERMAL PROPERTIES	NORMS																
Melt flow Index (230°C/3,8 kg) (g/10min)	2	2,8	6	14,5	28	3	1,8	0,8	11	3	1,5	2	0,7	0,6			
Vicat softening point temperature (°C)	101	108	103	90	93	106	103	100	90	90	94	119	101	94			
HDT: 1,8 Mpa (°C)	92	100	95	70	80	98	93	88	83	81	87	110	90	88			
Coefficient of linear thermal expansion (10-6/°K)	65	65	65	70	70	75	80	100	80	100	100	65	90	100			
OPTICAL PROPERTIES	NORMS																
Refractive Index B	1,49	1,49	1,49	1,49	1,49	1,49	1,49	1,49	1,49	1,49	1,49	1,49	1,49	1,49			
Light transmittance (%)	92	92	92	92	92	92	92	90	92	90	91	92	91	90			
Haze (%)	0,5	0,5	0,5	0,5	0,5	1	1,5	2	1,5	2	1,5	0,5	1,5	2			
MECHANICAL PROPERTIES	NORMS																
Impact resistance (Charpy unnotched) (kJ/m²)	20	20	20	20	20	28	45	60	40	75	90	20	50	60			
Impact resistance (Charpy notched) (kJ/m²)	2	2	2	2	2	2,5	3,5	7	3	4,5	6,5	2	4	6			
Impact resistance (Izod notched) (kJ/m²)	2	2	2	2	1,8	2,2	3,5	6,3	3	5	6	2	4,5	6			
Tensile strength (Mpa)	70	70	70	65	66	59	48	38	48	38	50	70	45	45			
Elongation at Break (%)	6	6	6	5	5	20	30	40	25	30	65	5	35	45			
Flexural modulus (Mpa)	3300	3300	3300	3100	2900	2800	2400	1700	2300	1700	2000	3450	2200	2000			
Rockwell hardness	M-96	M-97	M-96	M-89	M-84	M-82	M-68	M-46	M-65	M-38	M-50	M-102	M-74	M-56			
GENERAL PROPERTIES	NORMS																
Density (g/cm³)	1,18	1,19	1,18	1,18	1,18	1,18	1,17	1,15	1,17	1,15	1,15	1,19	1,16	1,15			
Water absorption (%)	0,3	0,3	0,3	0,3	0,3	0,3	0,35	0,35	0,35	0,35	0,35	0,4	0,35	0,35			
Mould shrinkage (%)	0,2-0,6	0,2-0,6	0,2-0,6	0,2-0,6	0,2-0,6	0,2-0,6	0,2-0,6	0,2-0,6	0,2-0,6	0,2-0,6	0,2-0,6	0,2-0,6	0,2-0,8	0,2-0,8			
FLAMMABILITY	NORMS																
Fire resistant (Class)	HB	HB	HB	HB	HB	HB	HB	HB	HB	HB	HB	HB	HB	HB			

Informative average values / should not be used for specification purposes