



Declaration of product characteristics No.EPDM/TPV/ELASTRON/ABS/LEXAN

- 1. **Product type:** Plastic and rubber components, parts, assemblies and structures of the EXC2 design class
- 2. **Intended use of the construction product:** Stainless steel railing components and semifinished products designed for production and assembly of railings, exterior and interior.
- 3., 4. **Producer:** UMAKOV Group, a. s., Galvaniho 7/D, 821 04 Bratislava, IČO: 52685691, IČ DPH: SK2121107241, Tel. +421 915 093 533, europe@umakovshop.com, www.umakovshop.com
- 5. **The assessment of the performance:** System 2+ under regulation of the European parliament and Council of the EU No. 305/2011, Appendix V.
- 6.,7. **Authorities involved in the assessment and verification of constancy of performance in accordance with the harmonized standard:**
QUALIFORM, a.s., Brno, certification body accredited No. 1023,
Released: Certificate of conformity of production control 1544-CPR-2020-1400-1, date: 1.4.2020

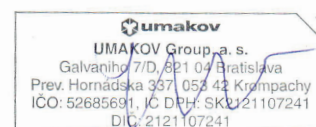
8. Declared attributes:

Typical Properties	UNIT	Material								Standard	
		EPDM		TPV 121-65		TPV 201-75F		Elastron G100.A65.B			
		Typical value	Testing value	Typical value	Testing value	Typical value	Testing value	Typical value	Testing value		
Hardness	[SHORE A]		71	65				68	65	62	ASTM D-2240
Hot air aging @168h/150°C	[SHORE A]		-	64				-	-	-	ASTM D-573
Specific gravity	[g/cm³]		1,25	0,913				0,945	1,17	1,18	ASTM D-792
Tear strenght	[N/mm]		25	45				45	30	-	ASTM D-624
Elongation at break	[%]		300	426				420	700	974	ASTM D-412
Tensile strength	[Mpa]		7	13				8,2	5,5	7	
Mod.of Elasticity %100	[Mpa]		-	-				-	2	-	
Mod.of Elasticity %300	[Mpa]		-	-				-	3,4	-	
Compression Set	[% @ 23°C 22 h]		-	-				-	19	-	ASTM D-395
Compression Set	[% @ 70°C 22 h]		-	-				-	48	-	
Compression Set	[% @ 100°C 22 h]		30	-				-	75	-	
Abrasion	[mm³]		-	-				-	230	-	ASTM D-1630
Ozone Resistance			no cracks	-				-	no cracks	-	ASTM D-1149



Typical Properties	UNIT	Material								Standard
		LG ABS HI121		LEXAN RESIN 123R		COP				
		Typical value	Testing value	Typical value	Testing value	Typical value	Testing value			
Physical										
Specific gravity	[g/cm ³]	-	-	64	-	-	-	-	-	ASTM D792
Melt Mass-Flow Rate (MFR) (220°C/10.0 kg)	[g/10min]	1,25	0,913	-	-	-	-	-	-	ASTM D1238
Molding Shrinkage - Flow (23°C, 3,2mm, Injection Molded)	[N/mm]	25	45	-	-	-	-	-	-	ASTM D955
Mechanical										
Taber Abrasion, CS-17, 1 kg	[mg/1000cy]	-	-	10	-	-	-	-	-	SABIC method
Tensile Stress, yield, 50 mm/min	[Mpa]	-	-	63	-	-	-	-	-	ISO 527
Tensile Stress, break, 50 mm/min		-	-	65	-	-	-	-	-	
Tensile Strain, yield, 50 mm/min		-	-	6	-	-	-	-	-	
Tensile Strain, break, 50 mm/min		-	-	100	-	-	-	-	-	
Tensile Modulus, 1 mm/min		-	-	2350	-	-	827	-	-	
Tensile Strength		45	44.3	-	-	-	57	-	-	ASTM D638
Tensile Elongation	[%]	>10	-	-	-	-	42,9	-	-	
Flexural Modulus (23°C, 6.40mm, Injection Molded)	[Mpa]	2450	-	-	-	-	-	-	-	ASTM D790
Flexural Modulus (23°C, 6.40mm, Injection Molded)		73	-	-	-	-	-	-	-	
Flexural Stress, yield, 2 mm/min		-	-	90	-	-	-	-	-	ISO 178
Flexural Modulus, 2 mm/min		-	-	2300	-	-	-	-	-	
Ball Indentation Hardness, H358/30		-	-	95	-	-	-	-	-	ISO 2039-1
Hardness										
Rockwell Hardness (R-Scale, 23°C, Injection Molded)		106	-	-	-	-	-	-	-	ASTM D785
Thermal										
Deflection Temperature Under Load	[°C]	85	-	-	-	-	-	-	-	ASTM D648
Vicat Softening Temperature	[°C]	93	-	-	-	-	-	-	-	ASTM D1525
Thermal Conductivity	[W/m-°C]	-	-	0,2	-	-	-	-	-	ISO 8302
CTE, 23°C to 80°C, flow	[1/°C]	-	-	7.E-05	-	-	-	-	-	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	-	-	-	PA-SSES	-	-	-	-	-	IEC 60695-10-2
Ball Pressure Test, approximate maximum		-	-	140	-	-	-	-	-	ISO 306
Vicat Softening Temp, Rate B/50		-	-	140	-	-	-	-	-	
Vicat Softening Temp, Rate B/120		-	-	141	-	-	-	-	-	ISO 75/Be
HDT/Be, 0.45MPa Edgew 120°10*4 sp=100mm	[°C]	-	-	133	-	-	-	-	-	
HDT/Ae, 1.8 MPa Edgew 120°10*4 sp=100mm		-	-	122	-	-	-	-	-	ISO 75/Ae
Relative Temp Index, Elec		-	-	130	-	-	-	-	-	UL 746B
Relative Temp Index, Mech w/impact		-	-	130	-	-	-	-	-	
Relative Temp Index, Mech w/o impact		-	-	130	-	-	-	-	-	
PROPERTIES										
Water Absorption, (23°C/sat)	[%]	-	-	0,35	-	-	-	-	-	ISO 62
Moisture Absorption (23°C / 50% RH)		-	-	0,15	-	-	-	-	-	
Melt Volume Rate, MVR at 300°C/1.2 kg	[cm ³ /10min]	-	-	21	-	-	-	-	-	ISO 1133
OPTICAL										
Light Transmission, 2.54 mm	[%]	-	-	88-90	-	-	-	-	-	ASTM D 1003
Haze, 2.54 mm		-	-	< 0,8	-	-	-	-	-	
Refractive Index	-	-	-	1,586	-	-	-	-	-	ISO 489
ELECTRICAL										
Volume Resistivity	[Ohm-cm]	-	-	>1.E+15	-	-	-	-	-	IEC 60093
Surface Resistivity, ROA	[Ohm]	-	-	>1.E+15	-	-	-	-	-	
Dielectric Strength, in oil, 3.2 mm	[kV/mm]	-	-	17	-	-	-	-	-	IEC 60243-1
Relative Permittivity, 1 MHz	-	-	-	2,7	-	-	-	-	-	IEC 60250
Dissipation Factor, 50/60 Hz	-	-	-	0,001	-	-	-	-	-	
Dissipation Factor, 1 MHz	-	-	-	0,01	-	-	-	-	-	
Relative Permittivity, 50/60 Hz	-	-	-	2,7	-	-	-	-	-	
FLAME CHARACTERISTICS										
UL Yellow Card Link	-	-	-	E45329-238639	-	-	-	-	-	-
UL Recognized, 94HB Flame Class Rating	[mm]	-	-	0,75	-	-	-	-	-	UL 94
UL Recognized, 94HB Flame Class Rating 2nd value		-	-	3	-	-	-	-	-	
Glow Wire Flammability Index 850°C, passes at		-	-	-	1	-	-	-	-	-
Oxygen Index (LOI)	[%]	-	-	25	-	-	-	-	-	ISO 4589
UV-light, water exposure/immersion	-	-	-	F1	-	-	-	-	-	UL 746C

9. Characteristic of the products mentioned in paragraph 1 is in conformity with the characteristics listed in paragraph 8. This declaration is issued under the sole responsibility of the manufacturer referred in paragraph 3.



Producer:
Krompachy: 15.08.2023