



## HIGH PERFORMANCE MATERIALS

The property profile of **Durethan®** makes it ideal for applications in the automotive, electrical/electronics and construction industries.

**Pocan®** is primarily used in the electrical/electronics industry, but this versatile material also has applications in the automotive, commercial vehicle, medical, sports and leisure sectors.

### Key brands and products:

<b>Durethan®:</b>	engineering plastics based on polyamide 6, polyamide 66 and co-polyamide
<b>Pocan®:</b>	engineering plastics based on polybutylene terephthalate
<b>HiAnt®:</b>	engineering know-how and combined further development of innovations

## FIRE PROTECTION

Each year, fire causes considerable injury or damage to people, property and the environment.

The use of fire-retardant materials is therefore required in electrical engineering/electronics, transportation and the construction, textiles and furniture industries and is constantly being extended. In electrical engineering, conductive parts need to be insulated, e.g. using flame-retardant plastics as materials for control units, housings, cable sheathing, cable ducts, etc. Stringent fire safety requirements also have to be taken into consideration in transportation depending on the particular application (automotive, rail, aviation). There are many plastics that meet these requirements and offer additional advantages by virtue of their easy processability, mechanical property profile across a wide range of temperatures, versatility and low density.

The choice of materials for particular applications is often determined by standards and national regulations. These national regulations are increasingly subject to revision and internationalization, while precise analysis of the causes of fire is also leading to further tightening of standards.

These changes have an effect on the materials selected by manufacturers of domestic appliances, office and industrial electronics, and components for the building and transportation sectors, and require plastics manufacturers to enhance their products, too.

The development of flame-retardant **Durethan®** and **Pocan®** grades is the result of close cooperation between product development, applications development, environmental protection departments, and the market. Through involvement in the work of fire safety authorities, new material-related requirements can be identified and implemented quickly.



GUIDELINE VALUES ENERGIZED BY LANXESS

PA and PBT for flame-retardant applications

Pocan X Durethan X

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Trial Products (grade designations beginning with the code TP) are sales products at the developmental stage. For this reason, no assurances can be given as to type conformity, processability, long-term performance characteristics or other production or application parameters. No definitive statements can be made regarding the behavior of the product during processing or use. The purchaser/user uses the product entirely at his own risk. The marketing and continued supply of this material are not assured and may be discontinued at any time.

Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery.

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# PRODUCT RANGE WITH REFERENCE DATA

## PA AND PBT FOR FLAME-RETARDANT APPLICATIONS



			GRADE	FILLER/FR SYSTEM <sup>(1)</sup>	UL94 <sup>(2)</sup>				GWIT (°C)			GWF1 (°C)			CTI <sup>(3)</sup>	HWI <sup>(3)</sup>			HAI <sup>(3)</sup>			TENSILE MODULUS <sup>(4)</sup>	STRESS AT BREAK <sup>(4,5)</sup>	STRAIN AT BREAK <sup>(4,6)</sup>	IMPACT STRENGTH <sup>(7)</sup>	HDT/A <sup>(8)</sup>	DENSITY <sup>(9)</sup>	NOTE	
					0.4	0.75	1.5	3.0	f1/f2 <sup>(10)</sup>	0.75	1.5	3.0	0.75	1.5		3.0	0.75	1.5	3.0	0.75	1.5	3.0	MPa	MPa	%	kJ/m <sup>2</sup>	°C		g/cm <sup>3</sup>
<b>DURETHAN®</b>	PA 6	non-reinforced	B 30 S F30	~/halogenated	V-0	V-0	V-0	V-0	-	825	825	800	960	960	960	2	4	2	2	1	1	0	3600/-	70/-	3.7/-	150/-	70	1.35	5VB from 1.5 mm <sup>(2)</sup> ; 5VA from 2.0 mm <sup>(2)</sup>
			B 30 S FN30	~/halogen-free	V-0	V-0	V-0	V-0	-	775	775	-	960	960	960	0	3	3	1	1	1	1	3500/-	80/-	3.8/-	-/-	65	1.14	R22/HL3 <sup>(15)</sup> ; R23/HL3 <sup>(15)</sup>
			B 30 S FN40	~/halogen-free	V-2	V-2	V-2	V-2	-	875	850	750	960	960	960	0	4	3	2	0	0	0	3400/1100	90/45	4.0/22.5	N/N	66	1.14	VDE certification <sup>(14)</sup>
			DP 1802	~/halogen-free	-	V-2	V-2	V-2	-	775	775	775	960	960	960	0	4	3	2	0	0	0	2500/750	65/30	3.9/25	125/N	58	1.12	Extrusion grade, S4/SR2/ST2 classification <sup>(12)</sup>
			ECO BKV 20 FN20	G20/halogen-free	-	V-2	V-2	V-2	-	775	775	775	960	960	960	1	2	2	2	0	0	0	5400/2300	76/40	3.0/27	35/75	155	1.31	15% pre-consumer-recyclate; IPT: 300 min for 2.5 kV <sup>(3)</sup>
		BKV 25 FN27	G25/halogen-free	-	V-2	V-2	V-2	-	725	725	725	960	960	960	0	4	3	3	0	0	0	5600/-	85/-	4.0/-	30/70	170	1.34	IPT 60 min at 1.5 kV <sup>(3)</sup>	
		BG 30 FN05	G30/halogen-free	V-0	V-0	V-0	V-0	-	900	-	800	960	-	960	0	3	-	1	0	-	0	5400/2000	74/30	2.4/>25	55/70	100	1.40	IPT 300 min at 2 kV <sup>(3)</sup>	
		BKV 25 F30	GF25/halogenated	V-0	V-0	V-0	V-0	f1	850	850	850	960	960	960	1	0	0	0	2	1	1	11000/7300	150/90	2.3/4.4	55/55	205	1.60	5VA at 1.0 mm <sup>(2)</sup> ; VDE certification <sup>(14)</sup> ; IPT 300 min at 1 kV <sup>(3)</sup>	
		BKV 20 FN01	GF18/halogen-free	-	V-0	V-0	V-0	-	750	750	750	960	960	960	0	0	-	0	0	-	0	7960/4500	110/60	3.0/4.9	50/60	200	1.34	R22/HL3 <sup>(15)</sup> ; R23/HL3 <sup>(15)</sup>	
		BKV 20 FN20	GF20/halogen-free	-	V-2	V-2	V-2	-	775	775	775	960	960	960	1	3	2	2	0	0	0	6100/-	100/-	3.0/-	-/-	185	1.32	R22/HL2 <sup>(15)</sup> ; R23/HL3 <sup>(15)</sup>	
	BKV 25 FN01	GF25/halogen-free	-	V-0	V-0	V-0	-	775	775	775	960	960	960	0	1	0	0	2	1	1	9300/5800	205/140	3.2/5.5	60/65	202	1.39	5VA from 1.5 mm <sup>(2)</sup>		
	BKV 30 FN00	GF30/halogen-free	-	V-0	V-0	V-0	-	775	775	800	960	960	960	0	0	0	0	0	0	0	10800/6700	150/90	3.0/6.1	60/65	204	1.43	R22/HL2 <sup>(15)</sup> ; R23/HL3 <sup>(15)</sup>		
	BKV 45 FN04 <sup>16</sup>	GF45/halogen-free	V-0	V-0	V-0	V-0	-	750	750	800	960	960	960	0	0	0	0	0	0	0	16000/10000	160/95	2.4/4.3	60/60	210	1.57	5VA from 1.0mm <sup>(2)</sup> ; IPT 60 min at 1.0 kV <sup>(3)</sup>		
	DP 1801/30	GF30/halogen-free	-	V-2	V-2	V-2	-	725	725	725	960	960	960	1	4	4	2	0	0	0	7600/3400	93/47	4.0/28	50/84	175	1.40	S-4/SR-2/ST-2 classification <sup>(12)</sup> fulfilled Docket 90-A <sup>(13)</sup>		
	BG 30 X F30	(GB+GF)30/halogenated	-	V-0	V-0	V-0	-	825	800	825	960	960	960	1	0	0	0	1	1	1	7800/-	105/-	2.5/-	45/-	185	1.61	5VA at 1.5 mm		
	BG 30 X FN01	(GB+GF)30/halogen-free	-	V-0	V-0	V-0	f1	-	-	-	960	960	960	0	0	0	0	0	0	0	7200/3500	100/50	3.0/7.0	40/45	190	1.39	5VA at 2.0 mm; IPT 300 min at 1.5 kV <sup>(3)</sup>		
	BM 25 FN20	MD25/halogen-free	-	V-2	V-2	V-2	-	725	725	725	960	960	960	1	4	3	2	0	0	0	5700/2100	80/30	3.0/7.0	38/135	90	1.38			
	DP BM 65 X FM30	(GF+MD)65/halogen-free	-	V-0	V-0	V-0	-	775	775	775	960	960	960	0	4	1	0	0	0	0	12100/6000	120/73	1.6/2.2	30/23	181	1.69	R22/HL2 <sup>(15)</sup> ; R23/HL3 <sup>(15)</sup> ; R1/HL2 <sup>(15)</sup> ; R6/HL2 <sup>(15)</sup>		
	PA66	non-reinforced	A 30 S FN31	~/halogen-free	V-0	V-0	V-0	V-0	f1/f2	775	775	775	960	960	960	0	3	3	2	0	0	0	3800/1500	85/50	4.1/20	60/N	80	1.17	R22/HL2 <sup>(15)</sup> ; R23/HL3 <sup>(15)</sup>
			A 30 S F30 <sup>17</sup>	~/halogenated	V-0	V-0	V-0	V-0	-	825	825	-	960	960	960	2	3	0	0	0	0	0	3800/-	75/-	4.0/-	65/-	80	1.36	
DP 2801			~/halogen-free	-	V-2	V-2	V-2	-	775	775	775	960	960	960	0	3	3	2	0	0	0	3500/1400	94/55	4.2/20	110/N	75	1.14	VDE certification <sup>(14)</sup>	
AKV 15 FN00			GF12/halogen-free	V-0	V-0	V-0	V-0	-	-	-	-	960	960	960	0	0	0	0	0	0	0	6500/3600	90/55	3.0/5.0	40/45	204	1.28		
AKV 25 F30			GF25/halogenated	V-0	V-0	V-0	V-0	f1/f2	900	900	900	960	960	960	1	0	0	0	1	1	1	10500/8000	150/100	2.2/2.8	50/50	238	1.60	5VA at 1.0 mm <sup>(2)</sup> ; VDE certification <sup>(14)</sup> ; IPT 300 min at 1 kV <sup>(3)</sup>	
AKV 25 FN00		GF25/halogen-free	V-0	V-0	V-0	V-0	-	775	775	775	960	-	960	0	0	0	0	0	0	0	9600/5800	125/80	3.0/6.0	60/70	225	1.39	5VA at 1.5 mm; VDE certification		
AKV 30 FN04		GF30/halogen-free	V-0	V-0	V-0	V-0	f1/f2	750	750	750	960	960	960	0	0	0	0	0	0	0	10500/-	135/-	2.8/-	65/-	224	1.42	improved heat stability; 5VA from 1.5 mm <sup>(2)</sup> ; IPT 300 min at 1 kV <sup>(3)</sup>		
DP AKV 30 FN00		GF30/halogen-free	V-0	V-0	V-0	V-0	f1/f2	750	750	750	960	960	960	0	0	0	0	0	0	0	10500/6500	135/85	2.8/5.4	55/57	224	1.42	R22/HL3 <sup>(15)</sup> ; R23/HL3 <sup>(15)</sup>		
DP 2802/30		GF30/halogen-free	-	V-2	V-2	V-2	-	775	-	-	960	960	960	0	3	2	1	0	0	0	6000/3900	85/56	3.5/13.2	35/60	155	1.40	VDE certification <sup>(14)</sup>		
<b>POCAN®</b>		PBT	non-reinforced	B 2505	~/halogenated	-	V-0	V-0	V-0	-	875	850	725	960	960	960	0	4	3	2	0	0	0	3000	50	3.0	100	70	1.45
	KU 2-7503/1			~/halogenated	V-0	V-0	V-0	V-0	-	850	725	700	960	960	960	2	4	4	4	0	0	0	2900	60	6.0	130	75	1.45	I3/F3 classification <sup>(11)</sup>
	DP 2004			~/halogen-free	-	V-2	V-2	V-2	-	800	800	800	960	960	960	0	4	3	2	0	0	0	2300	55	8.0	85	75	1.32	VDE certification <sup>(14)</sup>
	S 7020			elast./halogenated	-	V-2	V-0	V-0	-	-	-	-	960	960	960	0	4	3	2	0	0	0	2300	45	4.5	N	65	1.38	
	S 7920			elast./halogenated	V-2	V-2	V-0	V-0	-	775	725	700	960	960	960	0	4	3	2	0	0	0	2400	40	3.0	N	60	1.37	5VB from 1.5 mm <sup>(2)</sup> ; 5VA from 3 mm <sup>(2)</sup>
	BF 2204 HR		hydrolysis-stabilized/halogenated	-	V-0	V-0	V-0	-	800	775	675	960	960	960	0	-	-	-	-	-	-	2800	60	3.5	60	65	1.45	Extrusion grade	
	reinforced		BF 4409	GF7/halogenated	V-0	V-0	V-0	V-0	-	725	725	725	960	960	960	3	4	3	2	0	0	0	4700	80	4.4	45	150	1.49	
			BF 4215	GF12/halogenated	V-0	V-0	V-0	V-0	-	700	700	700	960	960	960	2	4	3	2	0	0	0	6000	100	2.5	25	185	1.53	
			BFN 4211	GF13/halogen-free	V-0	V-0	V-0	V-0	-	775	775	775	960	960	960	0	4	2	1	2	1	1	6700	75	2.8	32	190	1.43	5VA at 1.5 mm
			BF 4212	GF15/halogenated	-	V-0	V-0	V-0	-	850	750	725	960	960	960	3	4	2	0	0	0	0	7000	110	2.6	35	190	1.55	
		BF 4222	GF20/halogenated	-	V-0	V-0	V-0	-	800	800	800	960	960	960	2	4	2	1	0	0	0	7500	115	2.6	50	195	1.57		
	BF 4225	GF20/halogenated	V-0	V-0	V-0	V-0	-	725	725	725	960	960	960	2	4	2	0	2	2	2	8300	120	2.5	45	200	1.60			
	BF 4222 Z	GF25/elast. halogenated	-	V-0	V-0	V-0	-	750	725	725	960	960	960	3	3	2	1	0	0	0	8700	115	3.3	70	190	1.58			
	BFN 4231	GF25/halogen-free	V-0	V-0	V-0	V-0	f1	775	825	850	960	960	960	0	2	2	0	1	1	1	11000	100	2.4	40	210	1.52	EIS 180 (H); R22/HL2 <sup>(15)</sup> ; R23/HL2 <sup>(15)</sup>		
	B 4239	GF30/halogenated	V-0	V-0	V-0	V-0	-	725	725	725	960	960	960	2	3	3	2	0	0	0	11500	125	2.1	50	200	1.67	5VA from 1.5 mm <sup>(2)</sup> ; EIS 155 (F); EIS 180 (H); S4/SR2/ST2 classification <sup>(12)</sup>		
	B 4235 Z	GF30, elast./halogenated	-	V-2	V-0	V-0	-	725	725	725	960	960	960	3	3	3	0	0	0	0	10000	125	2.8	60	200	1.62	5VA from 3 mm <sup>(2)</sup>		
	BF 4232	GF30/halogenated	-	V-0	V-0	V-0	-	775	900	930	960	960	960	2	3	2	0	0	0	0	10000	135	2.5	55	205	1.64	NF P 92-501 & 505 (M2)		
	BF 4232 HR	GF30/halogenated	V-0	V-0	V-0	V-0	-	850	725	725	960	960	960	3	3	0	0	2	2	2	9800	120	2.0	40	195	1.67			
	BF 4235	GF30/halogenated																											