

HUNTSMAN

Enriching lives through innovation

IROGRAN®

Thermoplastic Polyurethanes

For the wire
and cable industry



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Thermoplastic Polyurethanes for the wire and cable industry

Thermoplastische Polyurethane für die Kabelindustrie

Physical Properties Physikalische Eigenschaften	Grades / Produktbezeichnung		A80P	A85P	A92P	A92P	A85P
	Special Characteristics Spezielle Eigenschaften		5039	4394	4637	4207	4441
	UL94 Flammability Rating UL94 Flammenschutz-Einstufung		standard	standard	standard	standard	matt
	Norm	Unit Maßeinheit	HB	HB	HB	HB	HB
Hardness, Shore A Shore Härte A	D-2240	Shore A	79	85	92	92	87
	ISO 868		79	85	92	92	87
Hardness, Shore D Shore Härte D	D-2240	Shore D	27	36	39	40	38
	ISO 868		27	36	39	40	38
Tensile Strength Zugfestigkeit	D-412	psi	3400	5075	4870	5300	4400
	DIN 53504	Mpa	32	45	45	49	40
100% Modulus Spannungswert 100%	D-412	psi	700	1015	1300	1400	1100
	DIN 53504	Mpa	4,2	7,0	9,1	9,5	7,3
300% Modulus Spannungswert 300%	D-412	psi	1200	1740	2050	2280	1600
	DIN 53504	Mpa	7,7	12,0	15,9	16,6	11,0
Elongation @ break Reißdehnung	D-412	%	760	610	670	640	700
	DIN 53504	%	720	640	600	570	650
Tear Resistance Weiterreißfestigkeit	D-624	pli	480	574	660	680	560
	ISO 34-1	N/mm	45	60	74	75	60
Abrasion Abrieb	ISO 4649	in ³	0,0018	0,0015	0,0018	0,0015	0,0021
	ISO 4649	mm ³	30	25	30	25	35
Compression Set, 70h 23°C Druckverformungsrest, 70h 23°C	D-395	%	N/A	20	25	28	24
	ISO 815	%	N/A	20	25	28	24
Compression Set, 24h 70°C Druckverformungsrest, 24h 70°C	D-395	%	N/A	40	41	44	42
	ISO 815	%	N/A	40	41	44	42
Density Dichte	D-792	kg/m ³	1,10	1,12	1,13	1,14	1,11
	ISO 1183-1	kg/m ³	1,10	1,12	1,13	1,14	1,11
Thermal Melt Range Low Schmelzbereich niedrig	Huntsman	°F	N/A	302	320	330	311
	Huntsman	°C	N/A	150	160	165	155
Thermal Melt Range High Schmelzbereich hoch	Huntsman	°F	N/A	338	338	370	347
	Huntsman	°C	N/A	170	170	188	175
Limiting Oxygen Index (LOI) Sauerstoffindex	ASTM D2863	%	N/A	N/A	N/A	N/A	N/A

*HFFR = Halogen Free Flame Retardant

*1 not cross-linked probably V2

A92P 4851	A78P 4766	A85P 4350	A85P 4380	A85P 4854	A85P 4666	A85P 4944
matt HB	HFFR V0	HFFR V2	HFFR, matt V2	HFFR, matt V0	X-linkable *1	Hi Temp HB
93 93	82 82	86 86	87 87	83 83	84 84	88 88
42 42	30 30	35 35	36 36	33 33	31 31	38 38
5200 45	4000 30	4600 40	3200 35	N/A 25	3200 35	4400 40
1450 10,0	840 5,2	990 6,5	1015 6,5	N/A 3,5	890 5,7	1100 7,3
2100 16,1	1400 8,0	1500 10,2	1450 10,0	N/A 7,5	1400 9,0	1600 11,0
640 600	610 700	660 680	610 600	N/A 670	730 720	700 640
640 75	410 40	490 50	460 50	N/A 35	450 45	560 60
0,0021 35	0,0024 40	0,0021 35	0,0021 35	0,0024 40	0,0027 45	0,0024 40
27 27	20 20	22 22	25 25	N/A N/A	25 25	N/A N/A
45 45	36 36	40 40	45 45	N/A N/A	42 42	N/A N/A
1,13 1,13	1,16 1,16	1,15 1,15	1,14 1,14	1,14 1,14	1,15 1,15	1,11 1,11
320 160	330 165	340 171	318 159	260 125	311 155	N/A N/A
340 171	375 190	375 190	356 180	320 160	338 170	N/A N/A
N/A	25-27	25-27	26,7	25,4	N/A	N/A



IROGRAN® creating connections



Huntsman Polyurethanes is committed to working closely with its customers and can offer a fast and flexible response to your needs. We offer direct links to our laboratories with full technical backup. Commercial support and dedicated customer service is available throughout Europe, the Middle East, Asia-Pacific and the Americas.

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About Huntsman

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