

Stanyl® HGR2 BK00001

(PA46+PTFE)

Heat Stabilized, Wear and Friction Modified

Stanyl® HGR2 is a friction-modified high heat polyamide designed for friction-reduction in valve timing-chain systems that offers excellent wear & friction properties in combination with low friction.

PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
RHEOLOGICAL PROPERTIES			
	DRY / COND		
Molding shrinkage [parallel]	2 / *	%	Sim. to ISO 294-4
Molding shrinkage [normal]	2 / *	%	Sim. to ISO 294-4
MECHANICAL PROPERTIES			
	DRY / COND		
Tensile modulus	3100 / 900	MPa	ISO 527-1/-2
Tensile modulus (120°C)	770 / –	MPa	ISO 527-1/-2
Tensile modulus (160°C)	650	MPa	ISO 527-1/-2
Tensile modulus (180°C)	600	MPa	ISO 527-1/-2
Tensile modulus (200°C)	560	MPa	ISO 527-1/-2
Yield stress	90 / 50	MPa	ISO 527-1/-2
Yield stress (120°C)	45	MPa	ISO 527-1/-2
Yield stress (160°C)	40	MPa	ISO 527-1/-2
Yield stress (180°C)	35	MPa	ISO 527-1/-2
Yield stress (200°C)	30	MPa	ISO 527-1/-2
Nominal strain at break	25 / >50	%	ISO 527-1/-2
Nominal strain at break (120°C)	>50	%	ISO 527-1/-2
Nominal strain at break (160°C)	>50	%	ISO 527-1/-2
Nominal strain at break (180°C)	>50	%	ISO 527-1/-2
Nominal strain at break (200°C)	>50	%	ISO 527-1/-2
Flexural modulus	2900 / –	MPa	ISO 178
Flexural strength	120 / –	MPa	ISO 178



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PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
Charpy impact strength (+23°C)	N / N	kJ/m²	ISO 179/1eU
Charpy impact strength (-30°C)	150 / N	kJ/m²	ISO 179/1eU
Charpy notched impact strength (+23°C)	9 / 15	kJ/m²	ISO 179/1eA
Charpy notched impact strength (-30°C)	6 / 6	kJ/m²	ISO 179/1eA
Izod notched impact strength (+23°C)	8.5 / -	kJ/m²	ISO 180/1A

THERMAL PROPERTIES	DRY / COND		
Melting temperature (10°C/min)	295 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	190 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	290 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion (parallel)	0.85 / *	E-4/°C	ISO 11359-1/-2
Coeff. of linear therm. expansion (normal)	1.1 / *	E-4/°C	ISO 11359-1/-2
Thermal Index 5000 hrs	152	°C	IEC 60216/ISO 527-1/-2

OTHER PROPERTIES	DRY / COND		
Humidity absorption	3.2 / *	%	Sim. to ISO 62
Density	1260 / -	kg/m³	ISO 1183



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Tens. fatigue 8Hz, T, R=0.1 ,
dry

