

Polyphenylene Sulfide (PPS)

DURAFIDE®

3130A1

HF2000/HD9100

Special

General Properties of 3130A1

table1-1 General Properties (ISO)

Item	Unit	Test Method	Special
			3130A1
			Low Wear
Color			HF2000/HD9100
ISO(JIS)quality-of-the-material display:		ISO11469 (JIS K6999)	>PPS-MH30<
Density	g/cm ³	ISO 1183	1.64
Water absorption (23°C,24hrs,1mmt)	%	ISO 62	0.04
Melt viscosity (310°C,1000/sec)	Pa・s	ISO 11443	180
Tensile strength	MPa	ISO 527-1,2	125
Strain at break	%	ISO 527-1,2	1.7
Flexural strength	MPa	ISO 178	230
Flexural modulus	MPa	ISO 178	11,500
Charpy notched impact strength (23°C)	kJ/m ²	ISO 179/1eA	2.5
Temperature of deflection under load (1.8MPa)	°C	ISO 75-1,2	210
Coefficient of linear thermal expansion (Normal temperature, Flow direction)	x10 ⁻⁵ /°C	Our standard	2
Coefficient of linear thermal expansion (Normal temperature, Transverse direction)	x10 ⁻⁵ /°C	Our standard	4
Electric strength (3mmt)	kV/mm	IEC 60243-1	9
Volume resistivity	Ω・cm	IEC 60093	9 × 10 ¹⁵
Volume resistivity (Our standard)	Ω・cm		-
Relative permittivity (1kHz)		IEC 60250	7.6
Relative permittivity (1MHz)		IEC 60250	6.4
Dielectric dissipation factor (1kHz)		IEC 60250	0.020
Dielectric dissipation factor (1MHz)		IEC 60250	0.100
Tracking resistance (CTI)	V	IEC 60112	150
Arc resistance	s	ASTM D495	116
Rockwell hardness	M(Scale)	ISO2039-2	100
Flammability		UL94	V-0
The yellow card File No.			E109088
Appropriate List number of Ministerial Ordinance for Export Trade Control			Item 16 of Appendix -1

All figures in the table are the typical values of the material and not the minimum values of the material specifications.

1. Characteristics

3130A1 is whiskers filled grade. It has high strength and low wear property.

2. Friction and Abrasion Characteristics

Because 3130A1 is filled moderately soft whiskers, it has the effect of the good abrasion characteristics.

(Table 3-1) Friction and Abrasion Characteristics

Property		Unit	Test Method (ASTM)	3130A1 (HF2000)
Abrasion volume	PPS	$\times 10^{-5} \text{mm}^3/(\text{N} \cdot \text{km})$	1)	337
	Steel			<0.01
Coefficient of kinetic friction		-	1)	0.32

1)The suzuki method for Friction and abrasion test P= 0.49MPa V=0.3m/sec

3. Thermal Property

3-1) Coefficient of Linear Thermal Expansion

(Table 3-1) Coefficient of Linear Thermal Expansion

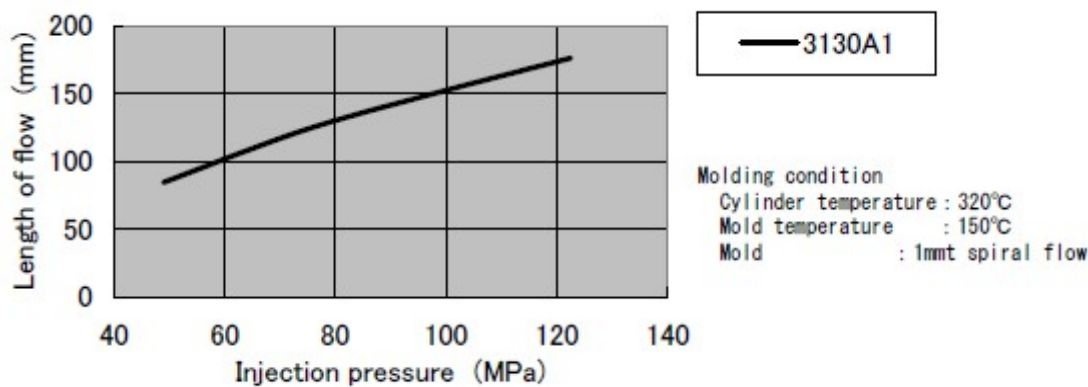
Grade		Unit: $\times 10^{-5}/^{\circ}\text{C}$	
		3130A1	
Direction		Flow direction	Transverse direction
Temperature ($^{\circ}\text{C}$)	-30	1.8	3.8
	0	1.8	3.9
	50	1.9	4.1
	100	1.9	4.4
	150	2.0	5.5
	200	2.2	6.4

Standard temperature: 20 $^{\circ}\text{C}$

4. Molding Properties

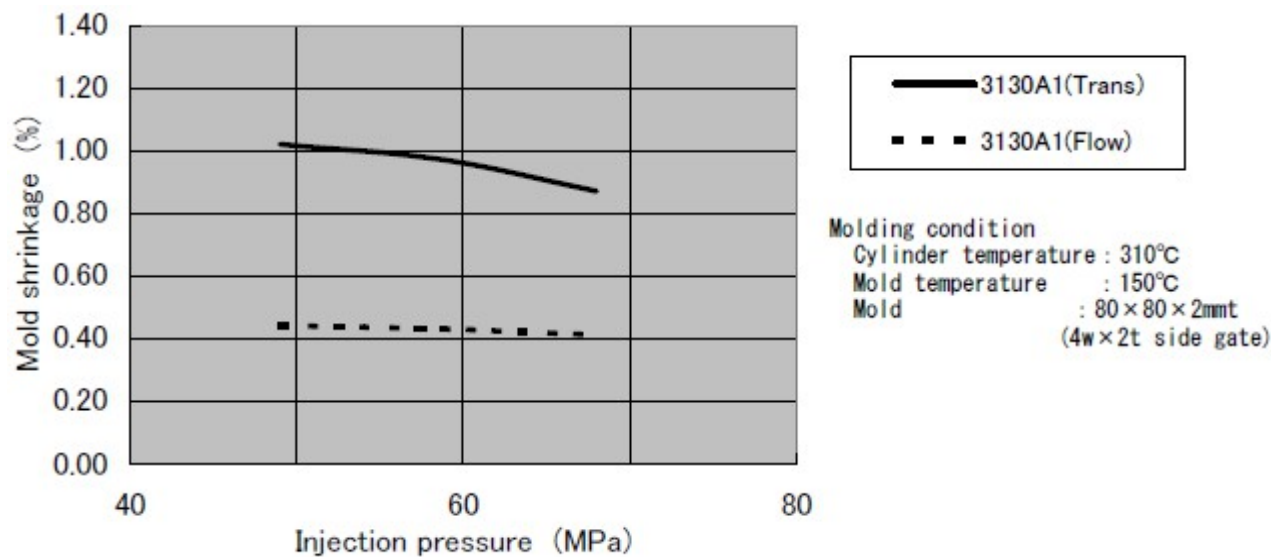
4-1) Flowability

(Figure 4-1) Flowability(1mmt)



4-2) Mold Shrinkage

(Figure 4-2) Mold Shrinkage(80□×2mmt)



NOTES TO USERS

- All property values shown in this brochure are the typical values obtained under conditions prescribed by applicable standards and test methods.
- This brochure has been prepared based on our own experiences and laboratory test data, and therefore all data shown here are not always applicable to parts used under different conditions. We do not guarantee that these data are directly applicable to the application conditions of users and we ask each user to make his own decision on the application.
- It is the users' responsibility to investigate patent rights, service life and potentiality of applications introduced in this brochure. Materials we supply are not intended for the implant applications in the medical and dental fields, and therefore are not recommended for such uses.
- For all works done properly, it is advised to refer to appropriate technical catalogs for specific material processing.
- For safe handling of materials we supply, it is advised to refer to the Safety Data Sheet "SDS" of the proper material.
- This brochure is edited based on reference literature, information and data available to us at the time of creation. The contents of this brochure are subject to change without notice upon achievement of new data.
- Please contact our office for any questions about products we supply, descriptive literatures or any description in this brochure.

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POLYPLASTICS CO., LTD.

JR Shinagawa East Bldg.,
18-1, Konan 2-chome, Minato-ku, Tokyo, 108-8280 Japan
Tel: +81-3-6711-8610 Fax: +81-3-6711-8618

<http://www.polyplastics.com/en/>