

Polyphenylene Sulfide (PPS)

DURAFIDE®

2130A1

HD9000

Special

POLYPLASTICS CO., LTD.



General Properties of 2130A1

table1-1 General Properties (ISO)

Item	Unit	Test Method	Special
			2130A1
			Conductive, Low Wear
Color			HD9000
ISO(JIS)quality-of-the-material display:		ISO11469 (JIS K6999)	>PPS-CF30<
Density	g/cm ³	ISO 1183	1.44
Water absorption (23°C,24hrs,1mmt)	%	ISO 62	0.04
Melt viscosity (310°C,1000/sec)	Pa·s	ISO 11443	380
Tensile strength	MPa	ISO 527-1,2	215
Strain at break	%	ISO 527-1,2	1.3
Flexural strength	MPa	ISO 178	300
Flexural modulus	MPa	ISO 178	21,200
Charpy notched impact strength (23°C)	kJ/m ²	ISO 179/1eA	5.5
Temperature of deflection under load (1.8MPa)	°C	ISO 75-1,2	265
Coefficient of linear thermal expansion (Normal temperature, Flow direction)	x10 ⁻⁵ /°C	Our standard	1
Coefficient of linear thermal expansion (Normal temperature, Transverse direction)	x10 ⁻⁵ /°C	Our standard	4
Electric strength (3mmt)	kV/mm	IEC 60243-1	-
Volume resistivity	Ω·cm	IEC 60093	2 × 10 ³
Volume resistivity (Our standard)	Ω·cm		-
Relative permittivity (1kHz)		IEC 60250	-
Relative permittivity (1MHz)		IEC 60250	-
Dielectric dissipation factor (1kHz)		IEC 60250	-
Dielectric dissipation factor (1MHz)		IEC 60250	-
Relative permittivity (2GHz)		Cavity resonator method	-
Dielectric dissipation factor (2GH z)		Cavity resonator method	-
Tracking resistance (CTI)	V	IEC 60112	-
Arc resistance	s	ASTM D495	-
Rockwell hardness	M(Scale)	ISO2039-2	110
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

- 2130A1 is carbon fiber reinforced grade.
- 2130A1 has higher strength and low wear property and conductive property.

2. Thermal Properties

2-1) Coefficient of Linear Thermal Expansion

(Table 3-1) Coefficient of Linear Thermal Expansion

Unit: $\times 10^{-5}/^{\circ}\text{C}$

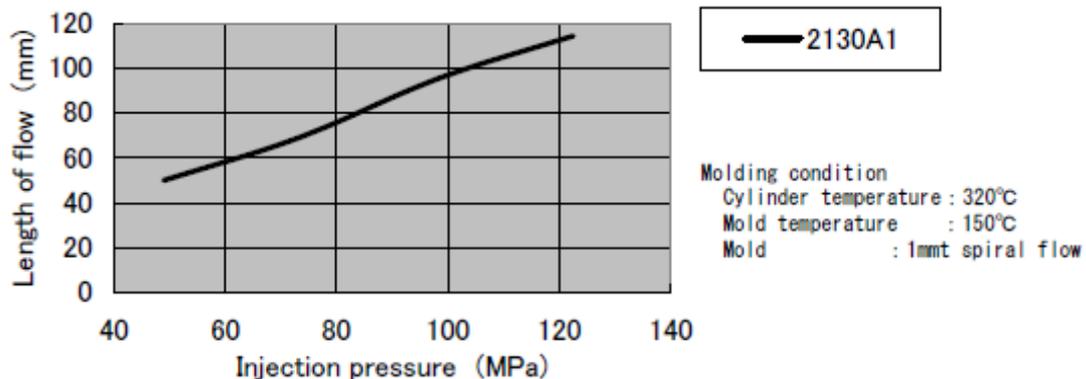
Grade		2130A1	
Direction		Flow direction	Transverse direction
Temperature ($^{\circ}\text{C}$)	-30	0.5	3.6
	0	0.5	3.7
	50	0.5	3.8
	100	0.5	4.3
	150	0.4	5.3
	200	0.5	6.1

Standard temperature: 20°C

3. Mold Properties

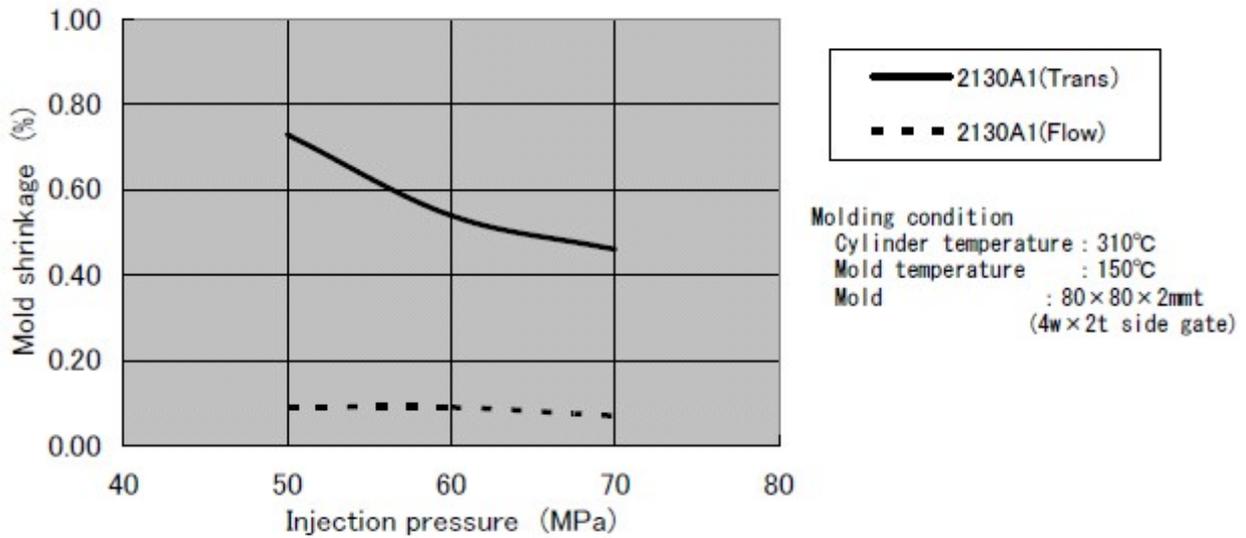
3-1) Flowability

(Figure 4-1) Flowability (1mmt)



3-2) Mold Shrinkage

(Figure 3-2) Mold Shrinkage (80□×2mmt)



4. Notes

- Please note that this grade is subject to application of the Laws of Foreign Exchange and Trade Control, therefore, when shipping the pellets, flakes or rods made of this grade outside Japan, application for export must be submitted to the MITI (Ministry of International Trade and Industry) for approval regardless of the destination and quantity.
- **2130A1** has higher percentage of absorption than other common GF reinforced grades, predrying at 140°C for 3 hours or 120°C, 5 hours is recommended in order to improve appearance of molded products and to prevent drooling.



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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