

**Polyphenylene Sulfide (PPS)**

# **DURAFIDE®**

0220U9

HD9100

(Special grade)

**POLYPLASTICS CO., LTD.**



# General Properties of 0220U9

table1-1 General Properties (ISO)

Item	Unit	Test Method	Special
			0220U9
			High Impact
Color			HD9100
ISO(JIS)quality-of-the-material display:		ISO11469 (JIS K6999)	>PPS-I<
Density	g/cm <sup>3</sup>	ISO 1183	1.31
Water absorption (23°C,24hrs)	%	ISO 62	0.04
Melt viscosity (310°C,1000/sec)	Pa·s	ISO 11443	500
Tensile strength	MPa	ISO 527-1,2	75
Strain at break	%	ISO 527-1,2	21 <sup>※1</sup>
Flexural strength	MPa	ISO 178	120
Flexural modulus	MPa	ISO 178	3,400
Charpy impact strength (notched)	kJ/m <sup>2</sup>	ISO 179/1eA	7
Temperature of deflection under load (1.8MPa)	°C	ISO 75-1,2	95
Coefficient of linear thermal expansion (Normal temperature, Flow direction)	x10 <sup>-5</sup> /°C		5
Coefficient of linear thermal expansion (Normal temperature, Transverse direction)	x10 <sup>-5</sup> /°C		6
Dielectric breakdown strength (3mmt)	kV/mm	IEC 60243-1	18
Volume resistivity	Ω·cm	IEC 60093	2 × 10 <sup>16</sup>
Volume resistivity (Our standard)	Ω·cm		-
Dielectric constant (1kHz)		IEC 60250	3.5
Dielectric constant (1MHz)		IEC 60250	3.5
Dielectric dissipation factor (1kHz)		IEC 60250	0.001
Dielectric dissipation factor (1MHz)		IEC 60250	0.002
Tracking resistance (CTI)	V	IEC 60112	125
Arc resistance	s		111
Dielectric constant (2GHz)		Cavity resonator method	-
Dielectric dissipation factor (2GH z)		Cavity resonator method	-
Rockwell hardness	M(Scale)	ISO2039-2	-
Flammability		UL94	-
The yellow card File No.			-
Appropriate List number of Ministerial Ordinance for Export Trade Control			Item 16 of Appendix -1



※1) Nominal strain at break

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



## 1. Characteristics

**0220U9** is unreinforced PPS grade. It has high toughness compared with **0220A9**.

## 2. Thermal Properties

### 2-1) Coefficient of Linear Thermal Expansion

(Table 2-1) Coefficient of Linear Thermal Expansion

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

Grade		0220U9	
Direction		Flow direction	Transverse direction
Temperature ( $^{\circ}\text{C}$ )	-30	4.4	5.6
	0	4.7	5.9
	50	4.8	6.0
	100	5.1	6.3
	150	7.6	7.7
	200	9.3	9.1

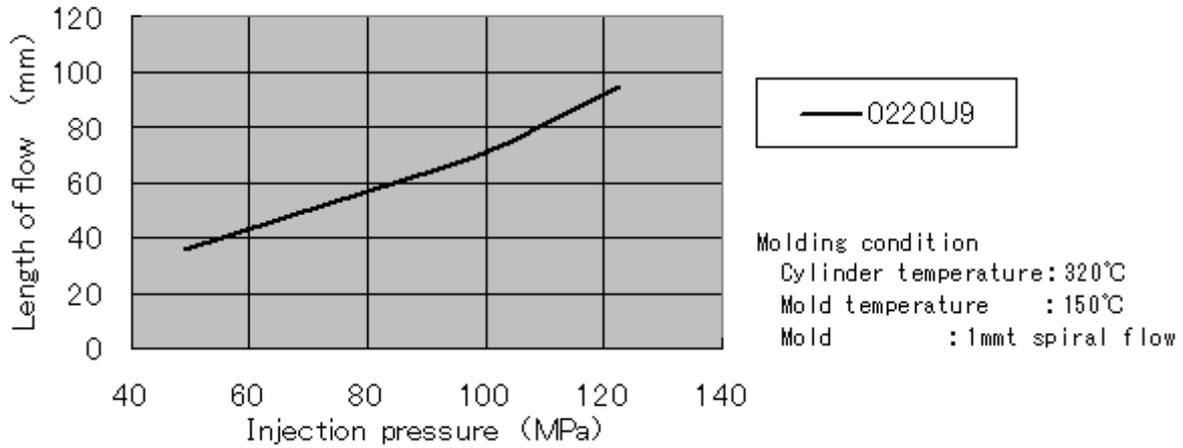
Standard temperature:  $20^{\circ}\text{C}$



### 3. Mold Properties

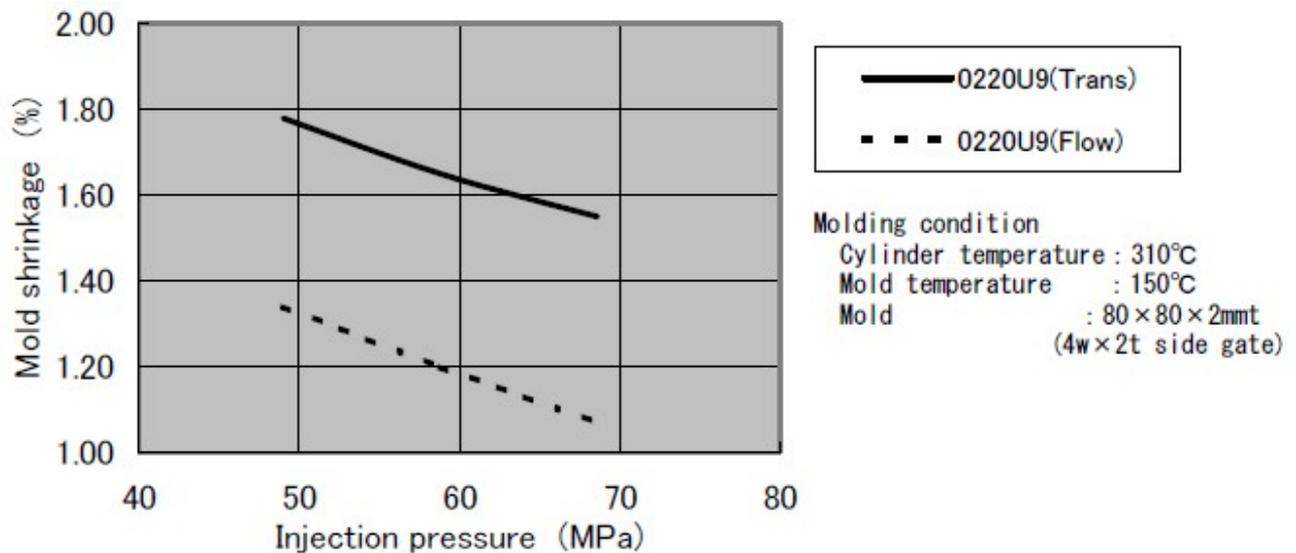
#### 3-1) Flowability

(Figure 3-1) Flowability (1mmt)



#### 3-2) Mold Shrinkage

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



## **NOTES TO USERS**

- All property values shown in this brochure are the typical values obtained under varying 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 the appropriate "Technical Catalog" 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 literatures, information and data currently available to us. So the contents of this brochure are subject to change without notice due to 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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