

Acetal Copolymer
DURACON®

SF-10

SF-15

SF-20

(High Impact, Flexible Grades)

Polyplastics

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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 Material Safety Data Sheet **"MSDS"** 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.

1.General properties of SF-10,SF-15,SF-20

Table1-1.Typical properties (ISO)

			High Impact,Flexible		
Item	Unit	Testing Method	SF-10	SF-15	SF-20
			High impact, Flexible	High impact, Flexible	High impact, Flexible
Density	g/cm ³	ISO 1183	1.36	1.33	1.3
Tensile strength	MPa	ISO 527-1,2	45	38	33
Strain at break	%	ISO 527-1,2	60*	100*	140*
Tensile modulus	MPa	ISO 527-1,2	1,900	1,700	1,300
Flexural strength	MPa	ISO 178	61	51	38
Flexural modulus	MPa	ISO 178	1,800	1,500	1,200
Charpy notched impact strength	kJ/m ²	ISO 179/1eA	12	15	20
Temperature of deflection under load (1.8MPa)	°C	ISO 75-1,2	82	72	62
Coefficient of linear thermal expansion (23~55°C) Flow direction	10 ⁻⁵ /°C	ISO 11359-2	13	13	14
Coefficient of linear thermal expansion (23~55°C) Transverse direction	10 ⁻⁵ /°C	ISO 11359-2	13	13	14
Electric strength	kV/mm	IEC 60243-1	—	18	18
Volume resistivity	Ω • m	IEC 60093	—	3 10 ¹³	5 10 ¹³
Surface resistivity	Ω	IEC 60093	—	1 10 ¹⁴	5 10 ¹⁴
Flammability		UL94	HB	HB	HB

*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.
- For qualified values of UL (Underwriters Laboratories Inc.) refer to the yellow card (File No.E45034) issued by UL.

Table1-2. Typical properties (ASTM)

				High Impact,Flexible		
Item		Unit	Testing Method	SF-10	SF-15	SF-20
				High impact, Flexible	High impact, Flexible	High impact, Flexible
Specific gravity		g/cm³	D 792	1.36	1.33	1.3
Tensile strength		MPa	D 638	48	38	29
Tensile elongation		%	D 638	130	>200	>200
Flexural strength		MPa	D 790	68	50	37
Flexural modulus		MPa	D 790	1,860	1,430	1,140
Izod impact strength (with notch)	Notch side	J/m	D 256	98	140	170
	Reversed notch	J/m	D 256	NB	NB	NB
Deflection temperature under load(1.82MPa)		°C	D 648	90	85	75
Coefficient of linear thermal expansion (Room temperature)		10 ⁻⁵ /°C	—	—	—	—
Dielectric breakdown strength (Short-time test: 2mmt)		MV/m	D 149	—	—	—
Volume resistivity (3mmt)		Ω • m	D257	—	—	—
Surface resistivity		Ω	D257	—	—	—
Flammability (UL94)		—	(UL94)	HB	HB	HB

- All figures in the table are the typical values of the material and not the minimum values of the material specifications.
- For qualified values of UL (Underwriters Laboratories Inc.) refer to the yellow card (File No.E45034) issued by UL.

2.Moldability of SF series

Fig.2-1:Effects of cylinder residence time

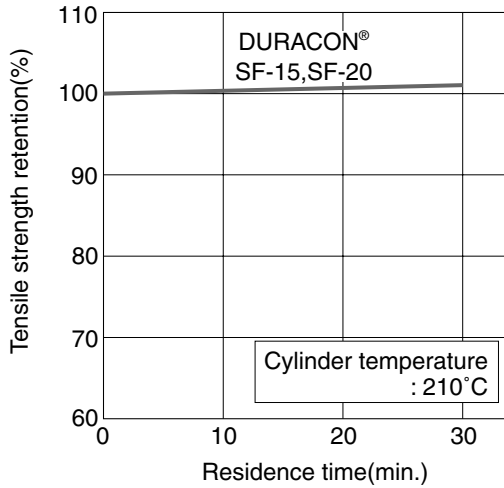
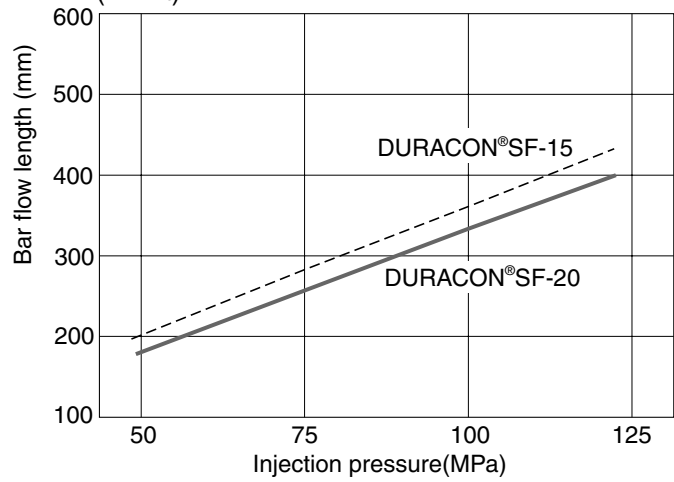


Fig.2-2:Bar flow length (2mmt)



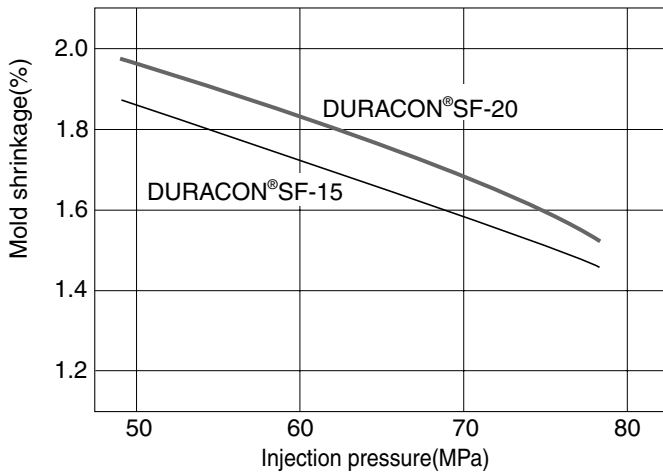
Processing parameters

Cylinder temperature: 190-190-170-150°C

Mold temperature : 80°C

Injection speed : 66 mm/sec

Fig.2-3:Mold shrinkage (120×120×2mmt)

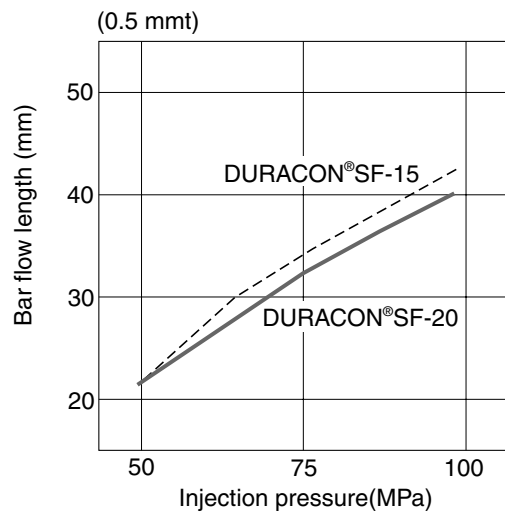
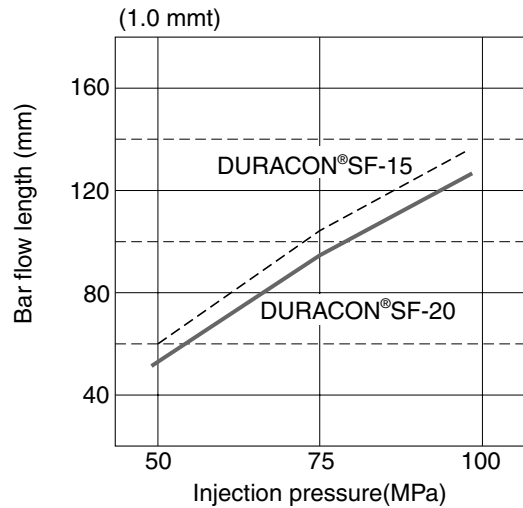


Processing parameters:

Cylinder temperature: 190-190-170-150°C

Mold temperature : 80°C

Injection speed : 66 mm/sec



3.Other Properties of SF series

Fig.3-1:Gasoline resistance

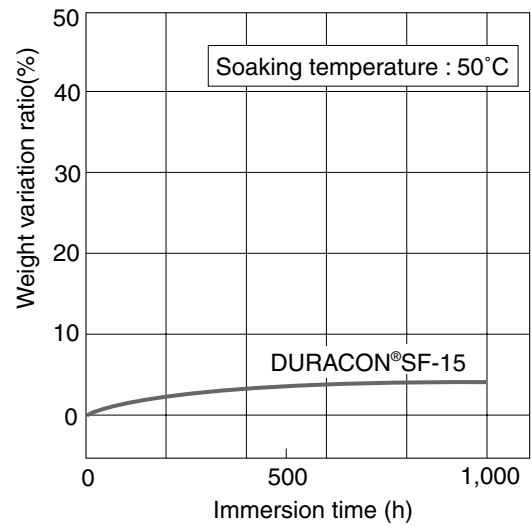
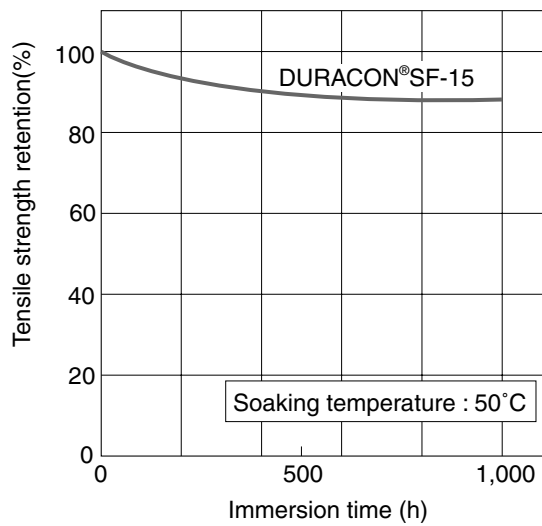
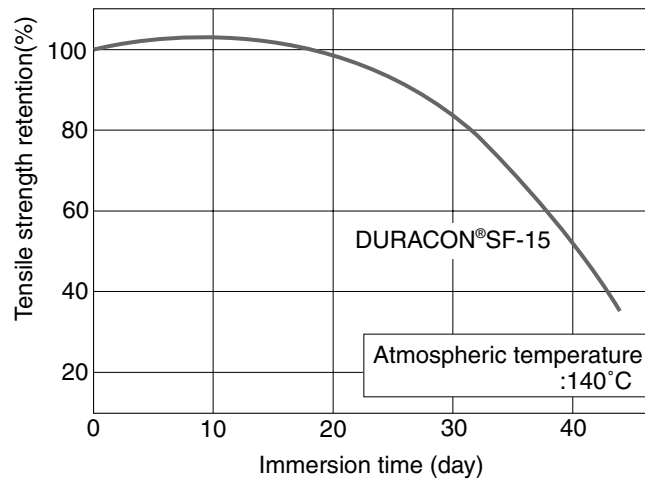


Fig3-2



Polyplastics



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* This registered mark does not guarantee
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