Schematic Grade Diagram
Position among Engineering Plastics
Available Grades
U-100 (neat polymer)
- U-100 Resin
- Technical Data
- Composite Grades

P Series
U Series
AX Series
Precautions in molding
Applications
Contact Us

U-polymer

U-100 composite grade

UG-100 series

Characteristics

• Excellent creep resistance, dimensional stability at high temperature

Properties

Print Table on A4 Paper

	Item	ASTM	Unit: SI (conventional)	UG-100-20	UG-100-30
	Density	D-792	-	1.36	1.44
	Water absorption (1/8", 24hrs)	D-570	%	0.24	0.24
	Light transmittance (Thickness: 3mm)	D-1003	%	-	-
	Tensile strength	D-638	MPa {kg/cm^2}	99 {1,005}	132
Mechanical Properties	Elongation at break	D-638	%	4.5	2.5
	Bending strength	D-790	MPa {kg/cm^2}	157 {1,600}	133
	Bending modulus	D-790	GPa {kg/cm^2}	5.2 {53,000}	5.7
	Compressive strength (Yield)	D-695	MPa {kg/cm^2}	-	-
	Izod impact strength (1/8", with notch)	D-256	J/m {kg-Ecm/cm}	49 {5}	100
	Rockwell hardness	D-785	R	122	122
Thermal properties	Deflection temperature under load 1.8MPa {18.6kg/cm^2}	D-648	℃	180	180
	Linear expansion coefficient	D-696	10^{-5}/K {10^{-5}cm/cm/℃}	2.1	3.5
	Dielectric breakdown strength	D-149	MV/m {kv/mm}	35	35
	Specific volume resistivity	D-257	Ωm {Ωcm}	4.6x10^{14} {4.6x10^{16}}	4.6x10^{14}
Electrical Properties	Dielectric constant (10^6Hz)	D-150	PF/m	26 {3.0}	27
	Dielectric dissipation factor (10^6Hz)	D-150	-	0.015	0.015
	Ark resistance	D-495	s	120	120
	Tracking resistance	IEC	V	-	-
Other properties	Molding shrinkage (Thickness: 3mm) Flow direction, orthogonal direction	-	%	0.2/0.55	0.1~0.2/0.3~0.5

<Technical Data>

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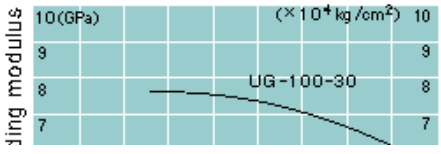
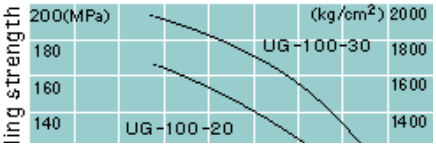
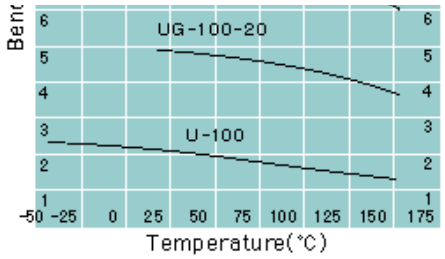
Relationship between bending modulus and temperature



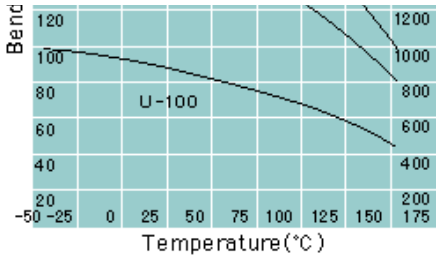
Relationship between bending strength and temperature





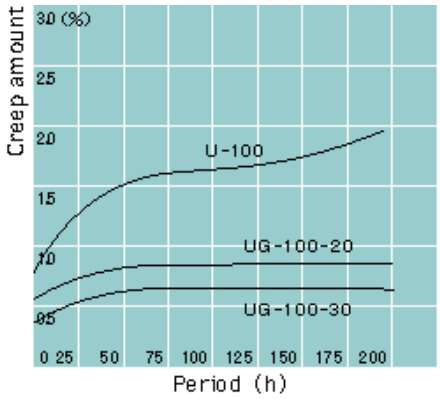
Tensile creep curve at high temperature (130℃)

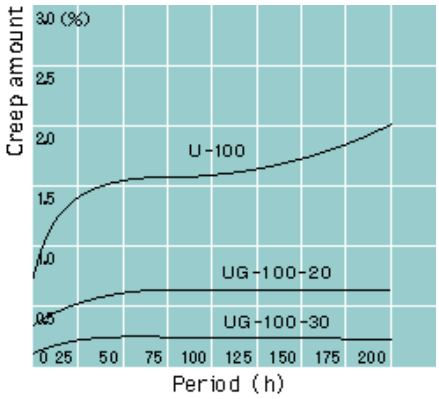
Load: 14.7Mpa{150kg/cm^2}



Bending creep curve at high temperature (130℃)

Load: 9.8Mpa{100kg/cm^2}





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