Zytel® HTN510EFT NC010

HIGH PERFORMANCE POLYAMIDE RESIN

Zytel® HTN high performance polyamide resins feature high retention of properties upon exposure to elevated temperature, to high moisture, and to harsh chemical environments. Polymer families and grades of Zytel® HTN are tailored to optimize performance as well as processability.

Typical applications with Zytel® HTN include demanding applications in the automotive, electrical and electronics, domestic appliances, and construction industries.

Zytel® HTN510EFT NC010 is an unreinforced, toughened, high performance polyamide resin. It is also a PPA resin.

Product information

Resin Identification	PA6T/XT-I	ISO 1043
Part Marking Code	>PA6T/XT-I<	ISO 11469
Part Marking Code	>PPA-I<	SAE J1344
ISO designation	ISO 16396-PA6T/XT-I,,M1CG1HR,S10-020	

Rheological properties

	dry/cond.		
Viscosity number	2340 / *	in³/lb	ISO 307, 1628
Molding shrinkage, parallel	0.8 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	0.8 / -	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	305000 / 348000	psi	ISO 527-1/-2
Tensile stress at yield, 50mm/min	9700 / 10000	psi	ISO 527-1/-2
Tensile strain at yield, 50mm/min	6 / 4	%	ISO 527-1/-2
Nominal strain at break	21 / -	%	ISO 527-1/-2
Charpy impact strength, 23°C	N / -	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30°C	N / -	ftlb/in²	ISO 179/1eU
Charpy impact strength, -40°C	N / -	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	42.8 / -	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30°C	9.51 / -	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -40°C	7.14 / -	ftlb/in²	ISO 179/1eA

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	572 / *	°F	ISO 11357-1/-3
Glass transition temperature, 10°C/min	275 / 203	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	255 / *	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), Parallel, 23-55°C(73-130°F)	0.372 / -	E-4/°F	ASTM E 831
Coefficient of linear thermal expansion (CLTE), parallel, -40-23°C	0.361 / *	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), Normal,23-55°C (73-130°F)	0.417 / -	E-4/°F	ASTM E 831
Coefficient of linear thermal expansion (CLTE), normal, -40-23°C	0.394 / *	E-4/°F	ISO 11359-1/-2

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Flammability

	dry/cond.		
Burning Behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	0.0295 / *	in	IEC 60695-11-10
FMVSS Class	B[1]		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	1.1	in/min	ISO 3795 (FMVSS 302)

[1]: 2mm nom. thick

Electrical properties

	dry/cond.		
Volume resistivity	>1E13 / >1E13	Ohm.m	IEC 62631-3-1
Electric strength	1020 / 1020	kV/in	IEC 60243-1
Comparative tracking index	525 / -		IEC 60112

Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.9 / *	%	Sim. to ISO 62
Water absorption, 2mm	6.3 / *	%	Sim. to ISO 62
Density	0.0404 / -	lb/in^3	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	212	°F
Drying Time, Dehumidified Dryer	6 - 8	h
Processing Moisture Content	≤0.1	%
Melt Temperature Optimum	617	°F
Min. melt temperature	608	°F
Max. melt temperature	626	°F
Mold Temperature Optimum	212	°F
Min. mold temperature	176	°F
Max. mold temperature	248	°F
Hold Pressure Time (h is the max. wall thickness of the part in mm)	h^2+2	s
Ejection temperature	468	°F

Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
Bosch	N28 BN05-OX088	
Ford	WSS-M98P14-A9	
General Motors		Natural, Special Parts Approval, See Your CE Account Representative for Further Details.
General Motors	GMW16799P-PPA-T2	Natural

Characteristics

Processing	Injection Molding
Additives	Release agent
Special characteristics	High impact or impact modified, Heat stabilized or stable to heat, Hydrolysis resistant

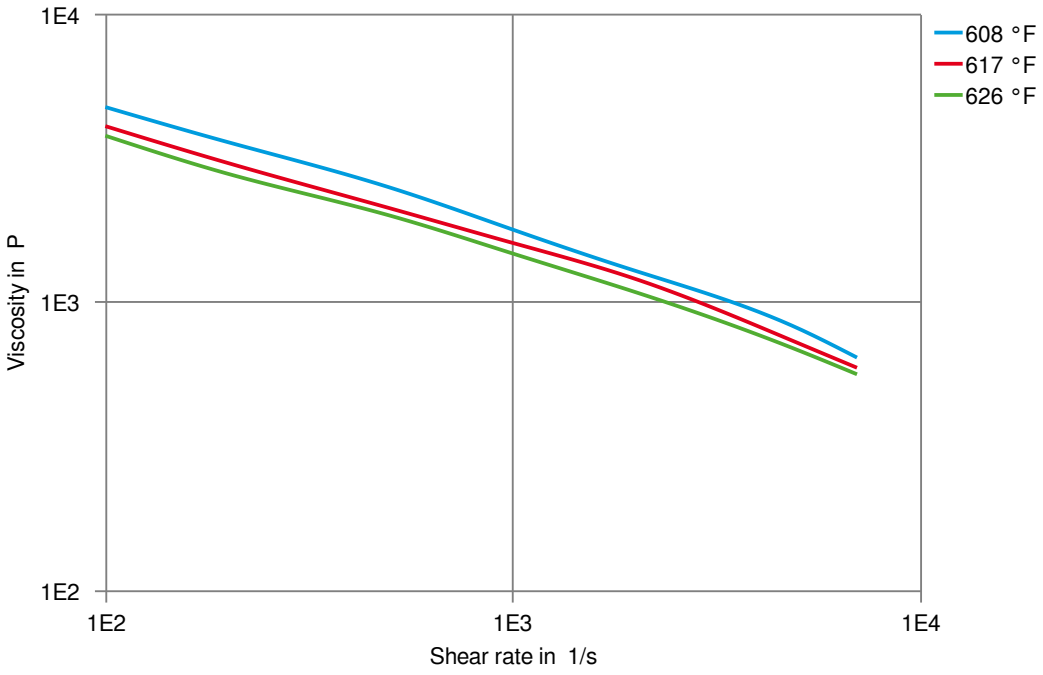
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Additional information

Injection molding	During molding, use proper protective equipment and adequate ventilation. Avoid exposure to fumes and limit the hold up time and temperature of the resin in the machine. Purge degraded resin carefully with HDPE. Molding guide

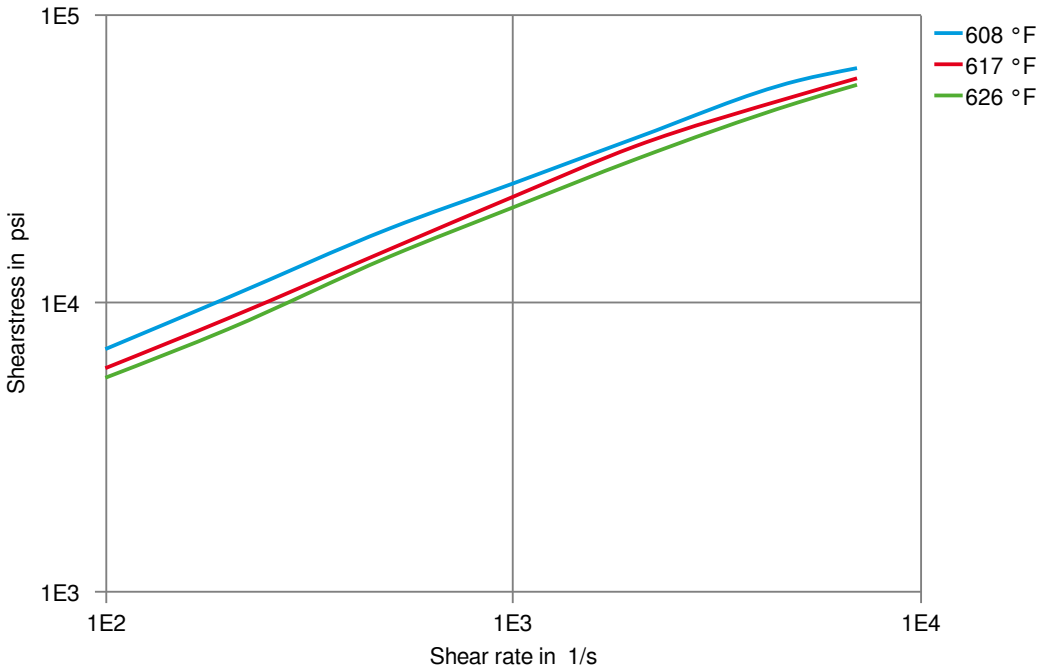
Viscosity-shear rate (measured on Zytel® HTN510EFT BK010)



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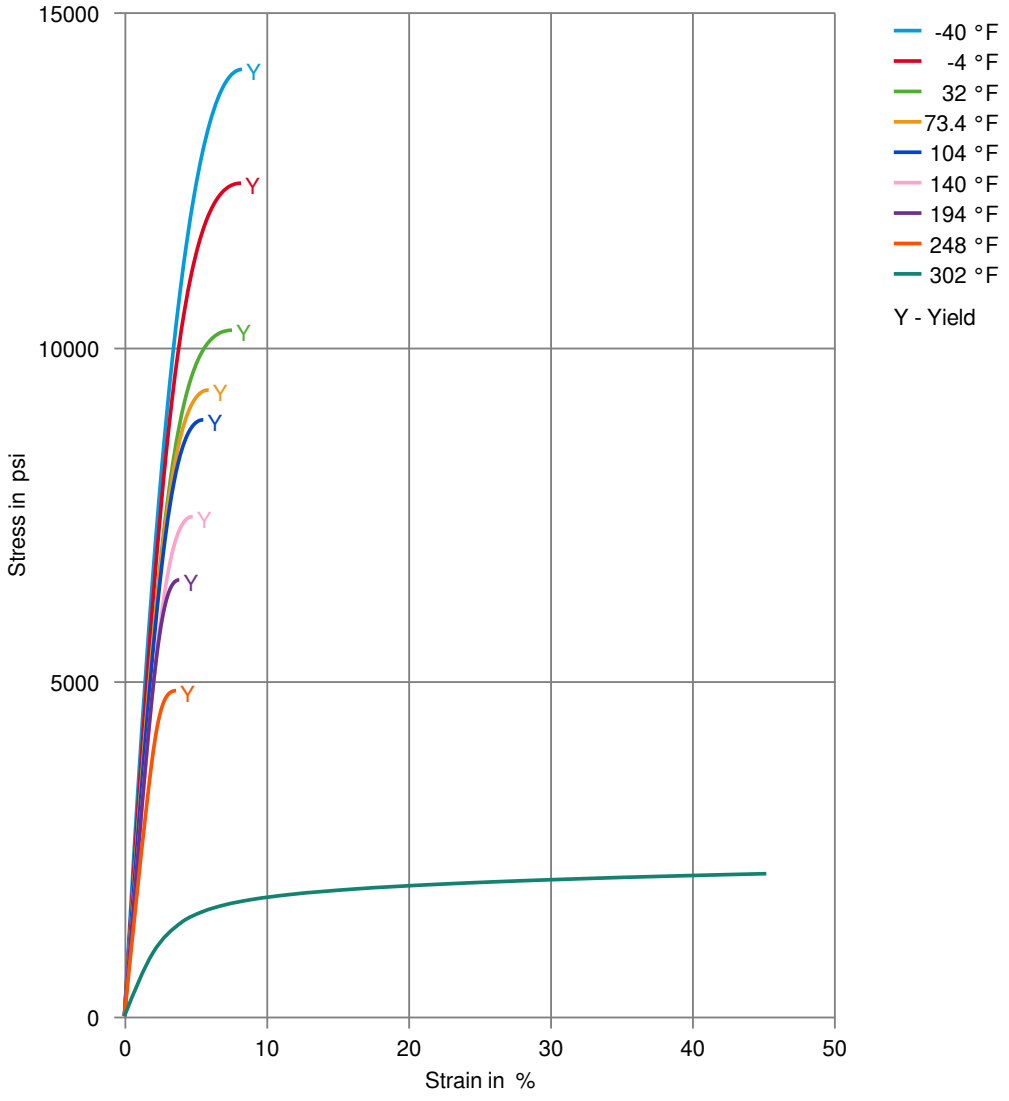
Shearstress-shear rate
(measured on Zytel® HTN510EFT BK010)



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Stress-strain (dry)

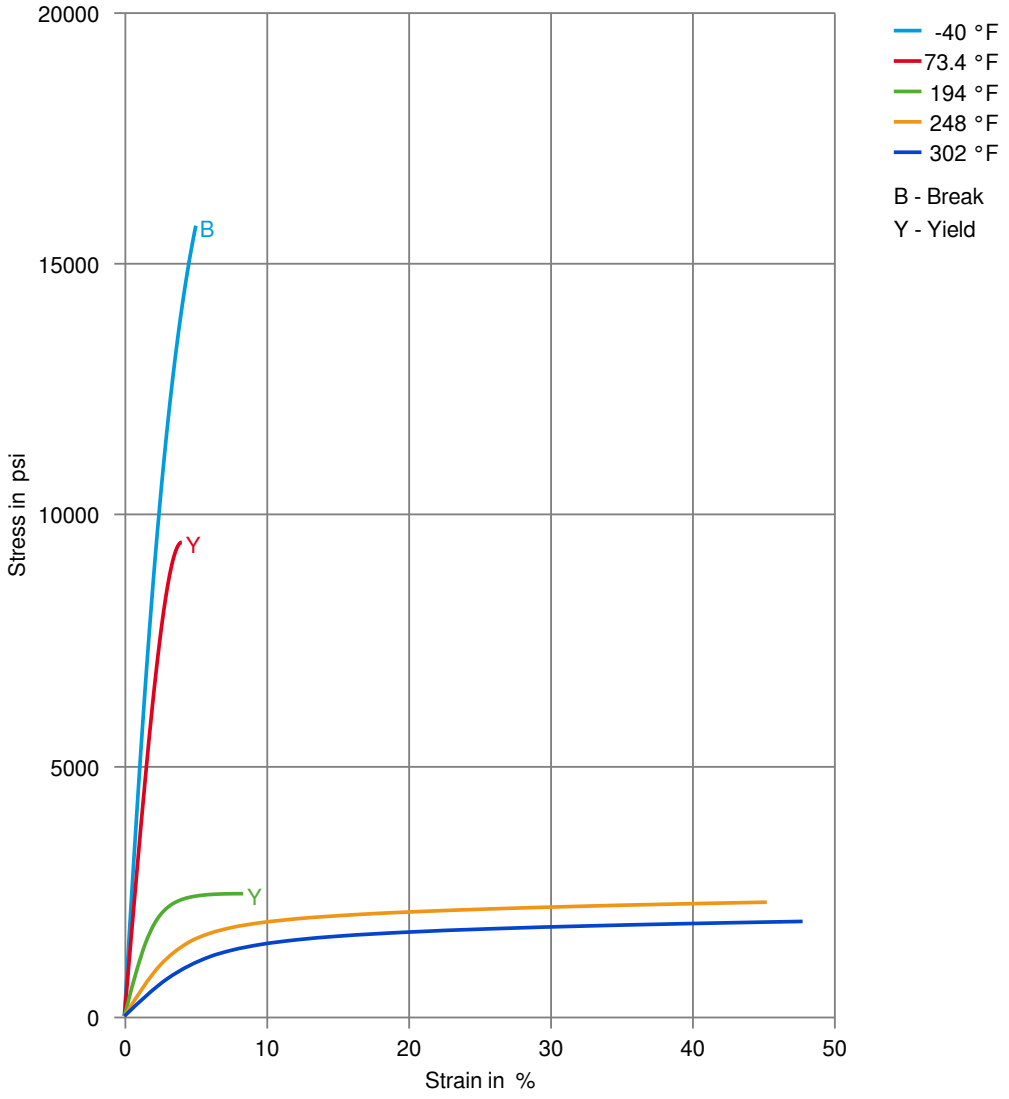


Revised: 2025-09-09 Source: Celanese Materials Database

Zytel® HTN510EFT NC010

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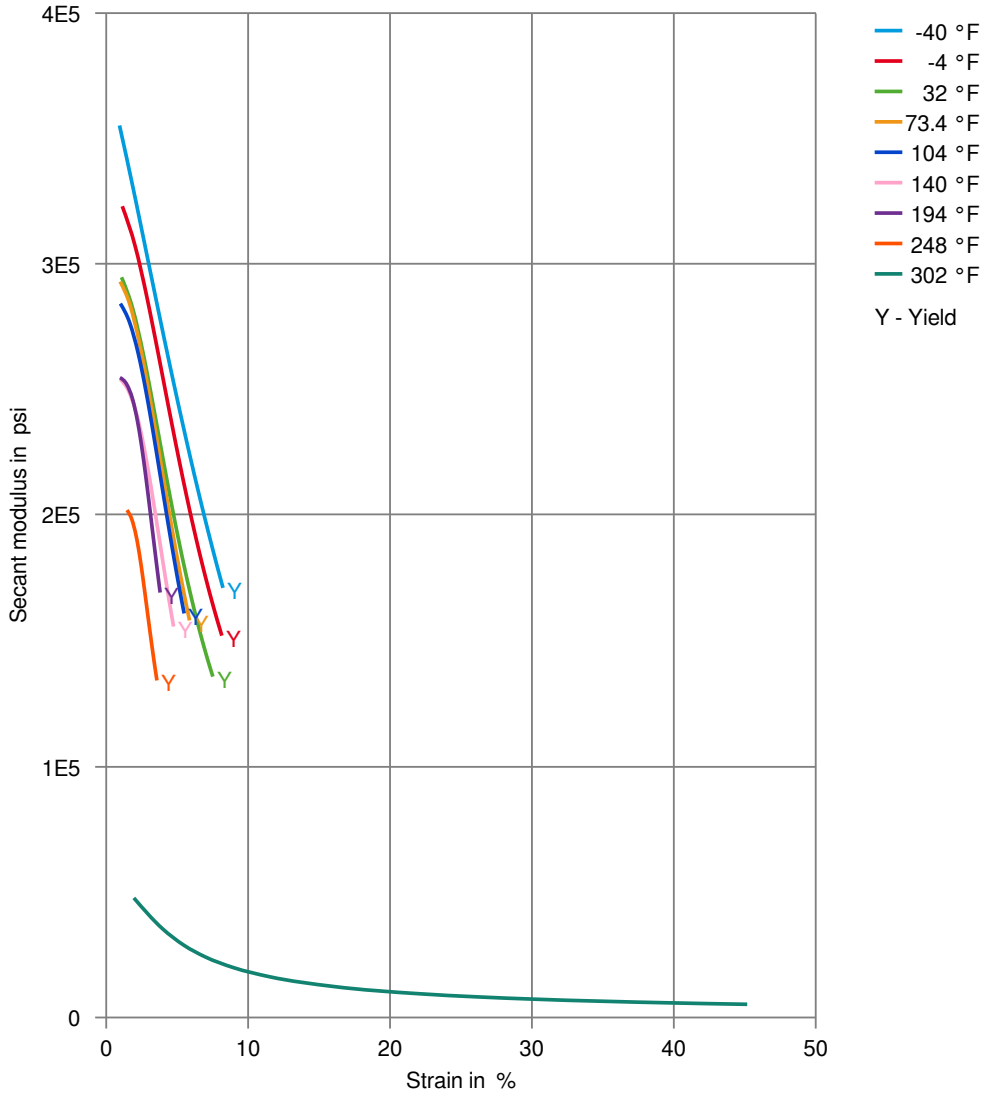
Stress-strain (cond.)



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Secant modulus-strain (dry)

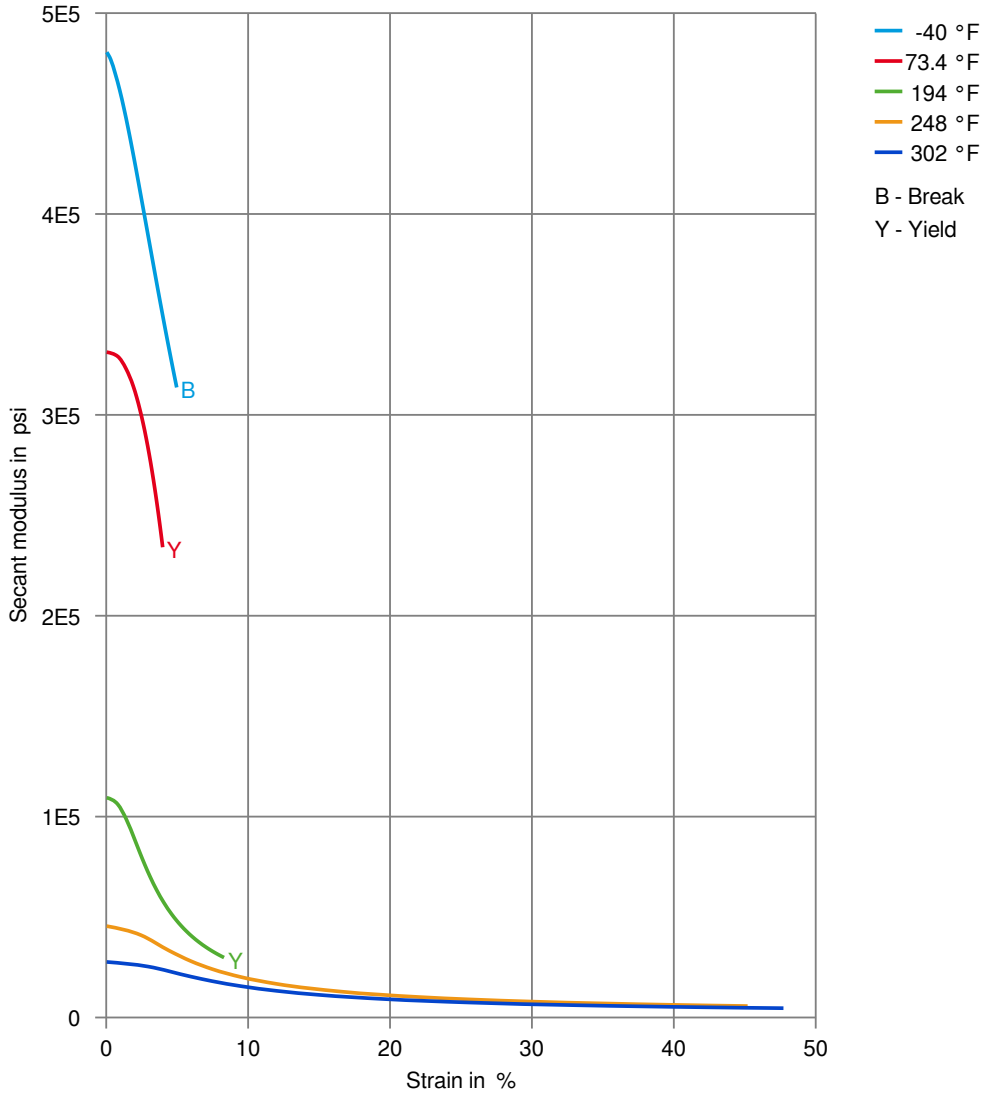


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Secant modulus-strain (cond.)



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