

**Table 3 Preliminary properties of new SP polyimide resins**

Property	Temp.	ASTM	Units	SP221	SP262
	°C	Method			
Tensile strength, ultimate	23 260	D638 (E8)	MPa	38,6	37,9 19,3
Strain at break	23 260	D638 (E8)	%	3,5	1 0,7
Flexural strength, ultimate	23 260	D790	MPa	55,1 31	
Flexural modulus, ultimate	23 260	D790	MPa	3445 2205	
Tensile modulus	23 260	D638 (E8)	MPa		8410 3720
Compressive stress		D695	MPa		
Ultimate	23			111,7	100
Ultimate	260			57	59
at 1% strain	23			14,5	40
at 1% strain	260			7,6	21,4
at 10% strain	23			78,6	
at 10% strain	260			46,5	
Compressive modulus	23 260	D695	MPa	1412 790	2860 1790
Specific gravity		D732		1,6	1,74

MECHANICAL

**Table 3 Preliminary properties of new SP polyimide resins**

	Temp.	ASTM	Units	SP221	SP262	
	°C	Method				
<b>THERMAL</b>	Coefficient of linear thermal expansion		D696	$\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$		
	Perpendicular	23-300		29	13,1	
	Parallel	23-300			48,9	
	Thermal conductivity	23		W/m·K		2,46
		200				1,98
Specific heat	23		J/kg·K		792	
	40				837	

**Table 3 Preliminary properties of new SP polyimide resins**

	Temp.	ASTM	Units	SP221	SP262	
	°C	Method				
<b>WEAR AND FRICTION</b>	PV limit			MPa·m/s	10,5	10,5
	Coefficient of friction					
	PV = 0,875 MPa·m/s					0,10-0,14
	PV = 3,5 MPa·m/s					0,05-0,08
	Wear factor					
	PV = 0,875 MPa·m/s			$\text{mm}^3/\text{Nm} \times 10^{-6}$		0,44
	PV = 3,5 MPa·m/s					0,66
	Wear and friction against 6061 Wrought Aluminium					
	PV = 0,875 MPa·m/s		Coefficient of friction		0,21	
	PV = 0,875 MPa·m/s		Wear rate $V_{\text{ESPEL}}^{\circ}$ / Metal	$\text{mm}/\text{s} \cdot 10^{-6}$	2,3 / 0	
Wear and friction against ADC 12 Diecast Aluminium						
PV = 0,5 MPa·m/s		Coefficient of friction		0,15		
PV = 0,5 MPa·m/s		Wear rate $V_{\text{ESPEL}}^{\circ}$ / Metal	$\text{mm}/\text{s} \cdot 10^{-6}$	1,2 / 0		
PV = 4,7 MPa·m/s		Coefficient of friction		0,12		
PV = 4,7 MPa·m/s		Wear rate $V_{\text{ESPEL}}^{\circ}$ / Metal	$\text{mm}/\text{s} \cdot 10^{-6}$	3,7 / 0,3		