

# EL-Pro™ P400S

Polypropylene Homopolymer  
SCG Chemicals Co., Ltd.

# PROSPECTOR®

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## Technical Data

### Product Description

EL-Pro P400S is a homopolymer polypropylene resin which is suitable for monofilaments and flat yarn products. Which is manufactured by extrusion process with spinnerette die, annular die, T-die, coathanger die, etc.

### General

Material Status	• Commercial: Active		
Literature <sup>1</sup>	• <a href="#">Technical Datasheet (English)</a>		
Search for UL Yellow Card	• <a href="#">EL-Pro™</a>		
Availability	• Asia Pacific	• North America	
Features	• Fast Molding Cycle	• Food Contact Acceptable	• Homopolymer
Uses	• Bags • High Tenacity Flat Yarn • Monofilaments	• Rope • Sheet • Strapping	• Tape • Yarn
Agency Ratings	• FDA 21 CFR 177.1520		
Forms	• Pellets		
Processing Method	• Extrusion	• Filament Extrusion	

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	0.910 g/cm <sup>3</sup>	0.910 g/cm <sup>3</sup>	ASTM D1505
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	3.5 g/10 min	3.5 g/10 min	ASTM D1238
Environmental Stress-Cracking Resistance (ESCR)			ASTM D1693B
122°F (50°C), 25% Igepal, Injection Molded, F50	> 500 hr	> 500 hr	

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength - Across Flow <sup>3</sup>			ASTM D638
Yield	4550 psi	31.4 MPa	
Break	3560 psi	24.5 MPa	
Tensile Elongation <sup>3,4</sup> (Break)	650 %	650 %	ASTM D638
Flexural Modulus	192000 psi	1320 MPa	ASTM D790

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			ASTM D256
-4°F (-20°C)	0.31 ft·lb/in	17 J/m	
32°F (0°C)	0.46 ft·lb/in	25 J/m	
73°F (23°C)	0.73 ft·lb/in	39 J/m	

Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness (R-Scale)	85	85	ASTM D785

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Unannealed	230 °F	110 °C	
264 psi (1.8 MPa), Unannealed	140 °F	60.0 °C	
Vicat Softening Temperature	311 °F	155 °C	ASTM D1525
Melting Temperature	325 °F	163 °C	ASTM D2117

Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Gloss	65	65	ASTM D2457
Haze	50 %	50 %	ASTM D1003



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#### Additional Information

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Monofilament Processing -  
Melt temperature range: 250 to 280°C  
Stretching Temperature: 95 to 110°C  
Stretching Ratio: 8 to 12  
Flat yarn Processing -  
Melt temperature range: 220 to 270°C  
Stretching Temperature: 120 to 140°C  
Stretching Ratio: 5 to 7

#### Notes

<sup>1</sup> These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

<sup>2</sup> Typical properties: these are not to be construed as specifications.

<sup>3</sup> 2.0 in/min (50 mm/min)

<sup>4</sup> Across Flow

