



# C2000 PERFORMANCE ENHANCEMENT SERIES

The CirKular+™ C2000 Performance Enhancement Series represents a family of block copolymers based on styrene and ethylene/butylene brought to market by Kraton Polymers. CirKular+™ products are multi-resin compatibilizers and performance enhancement additives for upcycling mixed post-consumer (PCR) and post-industrial (PIR) polyolefinic streams suitable for multiple end use applications.

Depending on the target performance requirements and different resins used in the formulation, typical levels of CirKular+ addition range from 3 to 10% weight. CirKular+™ C2000 Performance Enhancement Series is manufactured in North America and Taiwan and are supplied in a form of dusted pellets.

Property	Test Methods	C2000
Tensile Strength, MPa <sup>1,2</sup>	ASTM D 238	24
300% Modulus, MPa <sup>1,2</sup>	ASTM D 412	580
Elongation at Break, %1.2v	ASTM D 412	724
Hardness (10s), Shore A <sup>3</sup>	ASTM D 412	267
Specific Gravity	ASTM D 2240	47
Melt Flow Rate (MFR), g/10 min (230°C/2.16kg)	ASTM D 792	0.90

These are typical values and should not be used to set specifications.

### VERSATILE END USE, PROCESSING AND FUNCTIONALITY

- Compounding and Dry Blending
- Extrusion, Injection and Blow Molding
- ► Films and Thermoforming
- ► Multi-layer Film Structures

Recommended Processing Conditions Guide is available on request and should be reviewed before use.

#### POTENTIAL APPLICATIONS

- ► Packaging (Food or Non-food)¹
- ► Flexible Packaging and Films
- ▶ Automotive
- ► Consumer Products
- ► Industrial
- ▶ Building and Construction

1FDA Food Contact status provided upon request



## Features & Benefits

#### **END PRODUCT DURABILITY AND AESTHETICS**

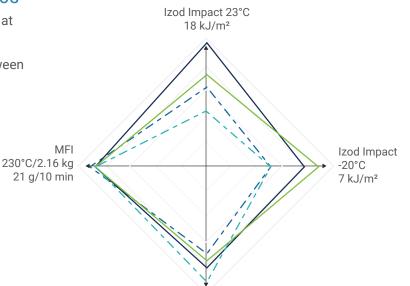
- Superior mechanical properties: High impact strength at room and low temperature
- ► Flexibility in tailoring properties: Tailored balance between stiffness and impact
- ► Enhanced stress crack resistance

#### INCREASED END PRODUCT CIRCULARITY

Multi-resin compatibility across virgin plastics, bioplastics and post-consumer and post-industrial resin waste streams

- ▶ Higher post-consumer and post-industrial content
- ► Improved product recyclability
- ► Lightweighting and downgauging
- ► Positive environmental impact with lower CO2 emissions and plastic waste reduction

# PCR PP Performance Enhancement Benchmarking



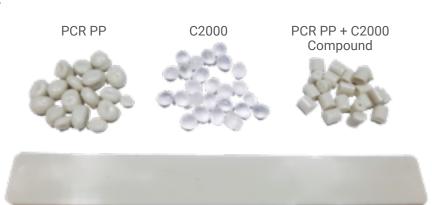
Flex Modulus 1000 MPa



#### MULTI-MATERIAL DESIGN FLEXIBILITY

Multi-resin compatibility across virgin plastics, post-consumer and post-industrial resin waste streams, and wood plastics composites

- Polyolefins and polyolefinic blends: PP, HDPE, MDPE, LLDPE and LDPE, metallocenes
- ▶ Polystyrene and high impact polystyrene
- ▶ Polar resins: EVOH, PVA, EVA
- Wood plastic composites



Injected sample of 91% PCR PP + 9% C2000 compound

#### **KRATON CORPORATION**

For more information, visit our website at www.kraton.com

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