PROFESSIONAL PLASTICS

HyPUR-cel® consists of three distinct families of microcellular polyurethane flexible foam. The HyPUR-cel® process involves highly effective nucleation technology that is free of external blowing agents and solvents. The resulting products are open-cell, breathable polyurethane foams with a multitude of applications. The products are available with anti-microbial additives for footwear and medical applications, flame retardants for automotive and industrial requirements, and a broad range of firmness selections for controlled shock absorption and cushioning.

Offered in the largest variety of densities and thicknesses, HyPUR-cel® is custom skived to thickness using state of the art converting equipment. Higher densities are not required with diminishing thickness which results in substantial savings when compared to other polyurethane foam technologies.

Standard Line

- T-Series (ether-based, thermo-formable)
- S-Series (ester-based, high elasticity, high elongation)
- I-Series (ether-based, high temperature, non-thermo-formable)

Physical Characteristics of all HyPUR-cel® Grades

- Ultra Low Compression Set
- Continuous 60” rolls
- Breathable
- Dimensionally Stable
- Enviromentally Friendly
- Custom Converted Thicknesses
- Open Cell

HyPUR-cel®

The Rubberlite R&D team continues to expand our HyPUR-cel® line of open-celled polyurethane foams, this includes our **new I-Series** line.

Offered in the broadest range of density and thickness, HyPUR-cel® is a unique family of medium to high density engineered foams comprised of three distinct product lines to meet your application needs.

Whether you need products from our I-series of highly resilient, very low compression set products, our S-series foams which offer exceptional elongation and thermal formability, or our T-series of thermo-formable foams, Rubberlite has designed each to offer cost effective solutions to your foam performance requirements.

Each product line is manufactured to meet specific market needs. Our open-celled, breathable polyurethanes are available with anti-microbial additives for footwear and medical applications, flame retardants for automotive and industrial requirements and a variety of firmness options for controlled shock absorption and cushioning.

All products are offered in 60” wide roll skived to meet Rubberlite’s exceptionally tight thickness tolerances. Fabrics, adhesives, films or foam composites are available from our lamination department enhancing product design and performance.

For footwear, medical, industrial, orthopedic soft goods, automotive, electronics, aerospace, protective equipment and more, HyPUR-cel® is a cost effective solution.

Standard Line

- T-Series (polyether-based, thermo-formable)
- S-Series (polyester-based, high elasticity, high elongation)
- I-Series (polyether-based, high temperature compression set performance)

Physical Charateristics of all HyPUR-cel® Grades

- Ultra Low Compression Set
- Breathable/Open Cell
- Dimensionally Stable
- Enviromentally Friendly
- Custom Converted Thicknesses
- REACH Compliant

Other Formulations and Additives

- Fire Retardant
- Anti-Microbial
- Custom Colors

HyPUR-cel® S-Series	HyPUR-cel® T-Series	HyPUR-cel® I-Series
Polyester-based offered in four formulations: Excellent stretch Unmatched memory Superior breathability Thermal-moldable	Polyether-based offered in densities from five to twenty pounds Tintable foam product offers custom applications Thermo-formable Fantastic for applications ranging from industrial to footwear	Polyether-based Available in a variety of densities Custom-tints available High rebound characteristics that often exceed neoprene capacities Excellent high temperature compression set

TYPICAL PROPERTIES OF

HyPUR-cel® T0503

POLYMER POLYURETHANE

PHYSICAL PROPERTY	TEST METHOD	UNIT OF MEASURE	RESULT
DENSITY	ASTM D3574	lb/ft3 kg/m3	3.5 - 6.5 56 – 104
COMPRESSION DEFLECTION @25%	ASTM D1056	psi kPa	1 – 5 6.9 – 34.5
TENSILE STRENGTH 2 Typical	ASTM D3574	psi kPa	45 310.2
ELONGATION 2 Typical	ASTM D3574	%	160
TEAR RESISTANCE Typical	ASTM D624	lb/in kN/m	7.0 1.22
COMPRESSION SET 1	ASTM D1056	%	3 (MAX)
CFD @ 25% Typical	ASTM D3574	psi kPa	1.1 7.5
COLOR	N/A	N/A	Grey

TYPICAL PROPERTIES OF

HyPUR-cel® T2040

POLYMER POLYURETHANE

PHYSICAL PROPERTY	TEST METHOD	UNIT OF MEASURE	RESULT
DENSITY	ASTM D3574	lb/ft3 kg/m3	17 - 23 272 - 368
COMPRESSION DEFLECTION @25%	ASTM D1056	psi kPa	30 – 50 207 - 345
TENSILE STRENGTH 2 Typical	ASTM D3574	psi kPa	230 1585
ELONGATION 2 Typical	ASTM D3574	%	140
TEAR RESISTANCE Typical	ASTM D624	lb/in kN/m	25 4.37
COMPRESSION SET 1	ASTM D1056	%	3 (MAX)
COLOR	N/A	N/A	Black

New I -Series is a microcellular polyether-based polyurethane foam technology with wide range of density and firmness options from a single chemistry and formulary.

- Outstanding high temperature compression set performance
- Highly advantaged compression fatigue performance
- Initial product offerings range in density from 7 – 20 lbs./Ft.3

Advantages

Demonstrates exceptional high temperature compression set performance while maintaining excellent tensile, tear, and elongation properties.

- Competitive alternative for mechanically frothed foams.
- Allows for down gauging in many applications
- Enables the use of lower density products to achieve performance targets for many applications.

Demonstrates exceptional Cyclic Compression Fatigue performance for applications such as insoles.

- Lab tests indicate a substantial improvement over mechanically frothed foams.

Provides a cost effective alternative to mechanically frothed foams.

- Free-rise production with skiving to engineered thicknesses.

Versatile and diverse products for broad range of applications:

- Available in a wide range of densities and compression deflections.
    - Product line will expand further as commercial implementation matures.
- Available with highly effective antimicrobial additive.
- Meets flammability requirements of FMVSS 302.
    - FR grades available.

Meets the requirements of UL-94HBF at a minimum thickness based on density

For the full-range of HyPUR-cel® Products, contact Professional Plastics, Inc.

http://www.professionalplastics.com/HyPUR-celFoam

PROFESSIONAL PLASTICS

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