



# CÍRCULO ENTEC

## THINK GREEN! RECYCLED THERMOPLASTICS IN DURABLE GOODS

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NOVEMBER 2020



Entec Resins México



Leibnitz 11-302, Anzures, CDMX.



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ABOUT US  
**THE TEAM** | OUR SPEAKER

CÍRCULO  
ENTE C

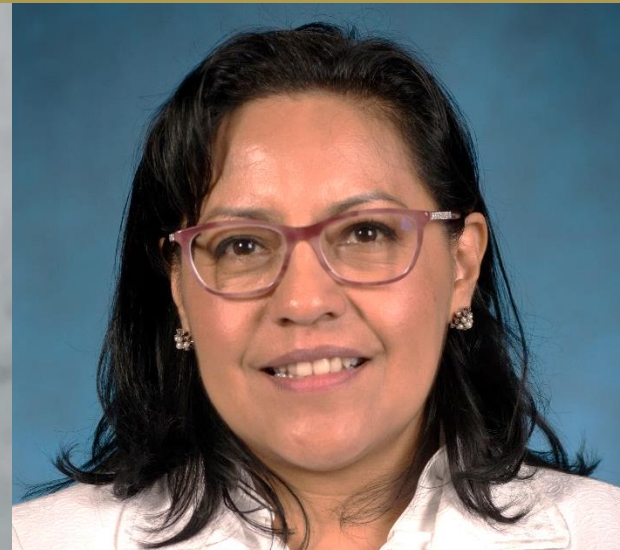


In the Business of Better



**WE WANT TO SEE YOU GROW!**

We take the time to listen and deliver.



**MAYRA SANTILLÁN**

Business Development  
msantillan@entecresins.com



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ABOUT US

2

THINK GREEN

3

RECYCLED  
THERMO-  
PLASTICS

4

KEY  
TAKEAWAY





CÍRCULO  
ENTECH

1

# ABOUT US

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# ABOUT US

## OUR HOLDING | RAVAGO

CÍRCULO  
ENTECH



In the Business of Better



5,900,000  
metric tons annual  
polymer sales



49,000  
active buying  
customers



55  
countries  
worldwide



7,000  
employees



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# ABOUT US

## OUR HOLDING | RAVAGO'S UNITS

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1  
MANUFACTURING



2  
POLYMER  
DISTRIBUTION



3  
CHEMICAL  
SOLUTIONS



4  
RESALE



5  
BUILDING  
SOLUTIONS



Ravago



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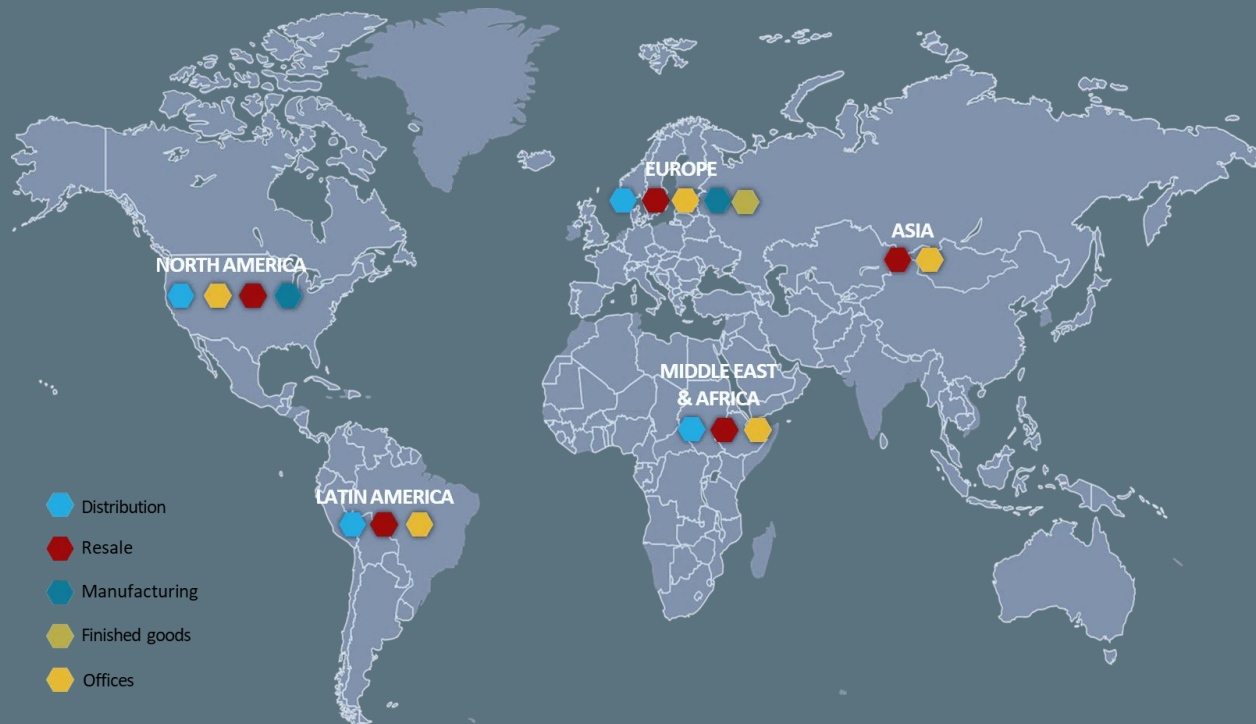
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## OUR HOLDING | RAVAGO'S UNITS

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## ENTEC MEXICO | FOOT PRINT

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WE ARE KEY PARTNERS  
WE DELIVER!



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# ABOUT US

## ENTECC MEXICO | CORE SUPPLIERS

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5



6



7



8



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THINK GREEN!

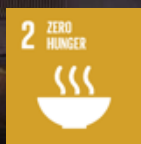
# THINK GREEN! SUSTAINABILITY | IMPORTANCE

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# SUSTAINABILITY



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# THINK GREEN! SUSTAINABILITY | CIRCULAR ECONOMY

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Circular economy aims to end the commonly run linear model of producing, consuming and discarding to give plastic products a second chance and reincorporate them into the value chain.



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# THINK GREEN! SUSTAINABILITY | RECYCLING PROCESS

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## POST CONSUMER

For example  
used PA fish nets

Recycled product  
from waste  
created by  
consumers

Collected from  
curbside and  
other sources

Ideal practice for  
sustainability

## POST INDUSTRIAL

For example  
not used PP pallets

Recycled product  
created from  
scrap plastic by  
manufacturers  
or converters

Pre-consumer  
resins

High level of  
quality and  
consistency



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# THINK GREEN! SUSTAINABILITY | OUR RECYCLED RESINS

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NYLON

2

POLY-  
PROPYLENE

3

POLY  
CARBONATE  
BLENDS

4

TPOs



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# THINK GREEN! SUSTAINABILITY | RMA PLANTS

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- RMA Brighton Michigan
- RMA West Unity Ohio
- IPC Allentown Pennsylvania
- RMA Arlington Texas
- RMA Wadsworth Ohio
- RMA Manchester Tennessee
- Baytown Texas



WORLD'S 1st compounder &  
**RECYCLER!**

PERFORMANCE,  
CONSISTENCY  
& VALUE

RMA PROMISE



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# THINK GREEN! SUSTAINABILITY | APPLICATIONS

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OFFICE CHAIRS



FIREARMS



HAND TOOLS



LAWN MOWERS



SPRINKLER  
VALVES



HOSPITAL BED  
CASTORS



CHAIN SAWS



VACUUM  
COMPONENTS



POWER OUTLETS



KITCHEN  
UTENSILS



PULLEYS



FASTENERS



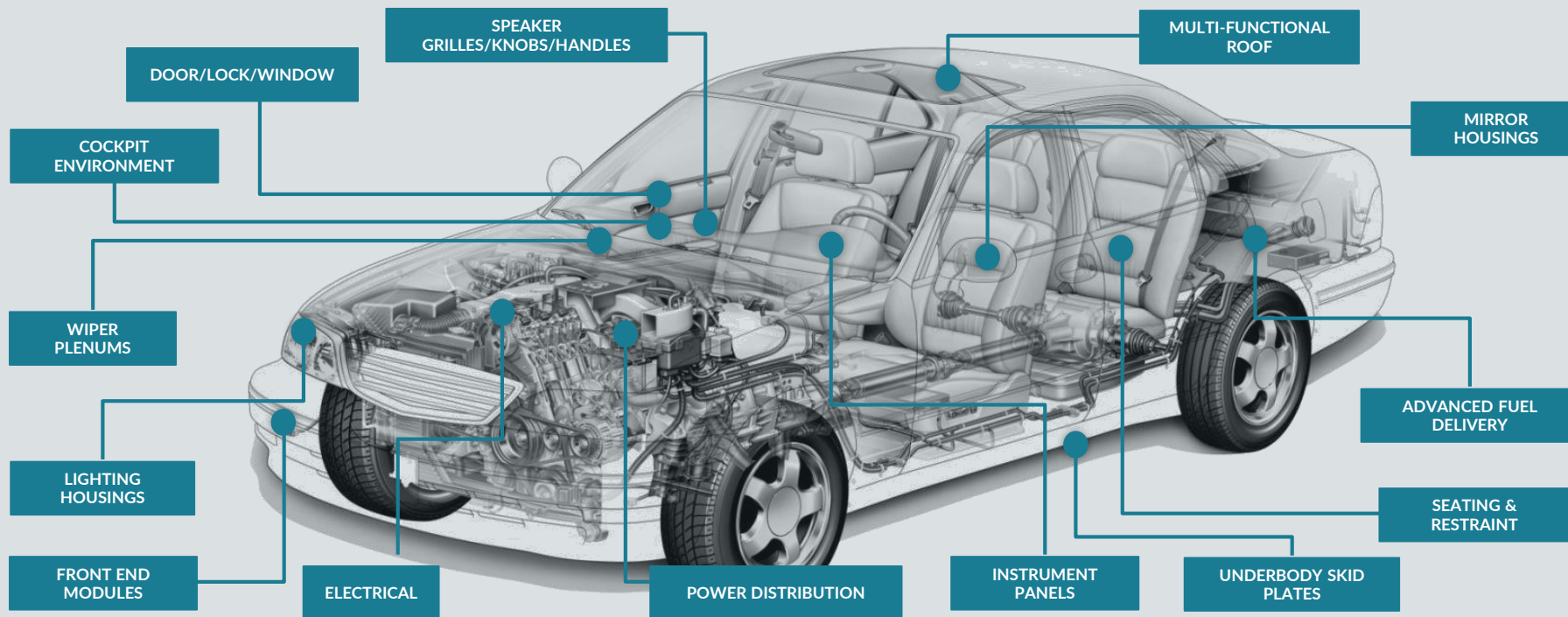


# THINK GREEN! SUSTAINABILITY | APPLICATIONS

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# RECYCLED THERMOPLASTICS

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# RECYCLED THERMOPLASTICS PRODUCT PORFOLIO

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## NYLON



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# RECYCLED THERMOPLASTICS PRODUCT PORTFOLIO | NYLON

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HYLON®

Hylon® has been the material of choice for Molders,  
Tier 1s, and OEM's for over 25 years.

Prime & Post-Industrial Recycled Fiber PA6 & PA66 Compounds.  
Formulated to Balance Performance, Consistency, and Value.  
Extensive Automotive OEM Specification Approvals.

EnViramid® consistency rivals reactor  
grade PA 6 and PA 66.

Post-Consumer Recycled Fiber Based PA6 & PA66.  
Eco-Friendly | Carpet Fiber Feedstock | UL Certified  
Sustainability with lower cost advantage.



EnViramid®



Cost and performance



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# RECYCLED THERMOPLASTICS PRODUCT PORTFOLIO | NYLON

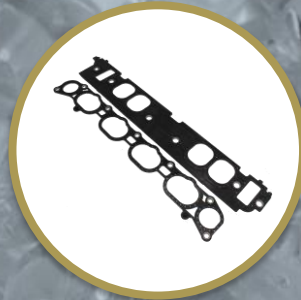
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**FAN SHROUDS**  
GF/MF, PA66 & PA6



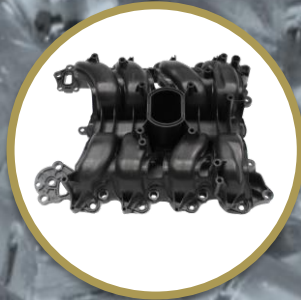
**GASKET CARRIERS**  
GF PA66, PIR & PCR



**AIR INDUCTION**  
GF/MF, PA66 & PA6



**DOOR HANDLE CORES**  
GF PA6, UV ADDITIVE



**INTAKE MANIFOLDS**  
GF PA6, PIR



**FLUID CONNECTORS**  
GF PA66, HYDROLYSIS



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# RECYCLED THERMOPLASTICS PRODUCT PORTFOLIO | NYLON

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**WIRE TROUGHS**  
PA66, IMPACT  
MODIFIED



**WINDOW  
GUIDES**  
GF PA66 PCR



**TRANSMISSION  
FILTER**  
GF PA6 & PA66 PCR



**AERO SHUTTERS**  
GF/MF PA6 PIR & PCR



**FUEL VAPOR  
CANISTER**  
VARIOUS MATERIALS



**HEAD REST FRAME**  
PA66, IMPACT  
MODIFIED



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# RECYCLED THERMOPLASTICS PRODUCT PORTFOLIO | NYLON

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EnViramid® N2330HLUV2 BK (Cores)  
HYLON® N2240MGHL BK (Brackets)

Material	Density (g/cm <sup>3</sup> )	Break Strength (MPa)	Flexural Modulus (MPa)	23 °C Notched Impact (kJ/m <sup>2</sup> )
N2330HLUV2 BK	1.39	138	9,700	10
N2240MGHLUV2 BK358	1.48	110	8,000	5

Surface Appearance & Scratch Resistance

Excellent Dimensional Stability

Cost Advantage with Recycled Formulations

## DOOR HANDLE CORES & BRACKETS



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# RECYCLED THERMOPLASTICS PRODUCT PORTFOLIO | NYLON

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## HYLON® N2240MGHL BK

Material	Density (g/cm <sup>3</sup> )	Break Strength (MPa)	Flexural Modulus (MPa)	23 °C Notched Impact (kJ/m <sup>2</sup> )
N2040MGHL BK	1.48	126	8,100	5
<b>N2240MGHL BK</b>	<b>1.48</b>	<b>110</b>	<b>8,000</b>	<b>5</b>
N2340MGHL BK	1.49	97	8,100	5

Excellent dimensional & thermal stability

Balanced mechanical & physical properties

Automotive OEM approvals

## ACTIVE AERO SHUTTERS



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# RECYCLED THERMOPLASTICS PRODUCT PORTFOLIO | NYLON

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## EnViramid® N1335HL BK

Material	Density (g/cm <sup>3</sup> )	Break Strength (MPa)	Flexural Modulus (MPa)	23 °C Notched Impact (kJ/m <sup>2</sup> )
N1035HL BK	1.38	178	9,800	10
N1233HL BK	1.38	155	9,100	7
N1335HL BK	1.40	147	10,500	9

Easy molding to produce intricate shapes

Temperature performance: operate in a wide range of environments

Automotive OEM approvals

EnViramid® is UL Certified to 100% PCR content

## FAN SHROUDS



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# RECYCLED THERMOPLASTICS PRODUCT PORTFOLIO | NYLON

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**HYLON® N2030HL All Colors**

**HYLON® N1000HL All Colors**

Material	Density (g/cm <sup>3</sup> )	Break Strength (MPa)	Flexural Modulus (MPa)	23 °C Notched Impact (kJ/m <sup>2</sup> )
N2030HL NAT & COLOR	1.37	177	9,300	15
N2030HL BK	1.37	155	8,900	10
N2230HL BK	1.37	148	8,600	10

Surface appearance & scratch resistance

Custom color available with natural resin

Easy molding to produce intricate shapes

Combination of strength & toughness

## TOOLS HOUSINGS AND HANDLES



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# RECYCLED THERMOPLASTICS PRODUCT PORTFOLIO | NYLON

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**HYLON® N1015HL BK**

**HYLON® N1033HL BK**

Material	Density (g/cm <sup>3</sup> )	Break Strength (MPa)	Flexural Modulus (MPa)	23 °C Notched Impact (kJ/m <sup>2</sup> )
N2030HL NAT & COLOR	1.37	177	9,300	15
N1000HL NAT & COLOR	1.14	80	3,100	8
N2030HL BK	1.37	155	8,900	10

Automotive  
OEM / Tier  
Approvals

Balanced  
Mechanical &  
Physical  
Properties

Broad chemical  
resistance

Operate in a  
Wide Range of  
Environments

**ELECTRICAL COMPONENTS & HOUSINGS**



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# POLYPROPYLENE



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# RECYCLED THERMOPLASTICS PRODUCT PORTFOLIO | PP

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## MAFILL® PP

Material	Density (g/cm <sup>3</sup> )	Melt Flow Index (g/10min)	Flexural Modulus (MPa)	23 °C Notched Impact (kJ/m <sup>2</sup> )
CR XG 3344	1.04	5	3,600	8
CR XG 5544	1.13	11	5,000	7
CR CTE 6344 HI	1.05	12	1,400	30

High End Specifications. Utilizing only post-industrial waste.

Highly recommended for automotive and industrial parts.

Long Term Thermal Stability and UV resistance.

Cost Effective. Glass and mineral filled grades.

## AUTOMOTIVE AND INDUSTRIAL PARTS



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# RECYCLED THERMOPLASTICS PRODUCT PORTFOLIO | PP

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## ECHO® PP

Material	Specific Gravity	Melt Flow Index (g/10min)	Flexural Modulus (MPa)	23 °C Notched Impact (ft-lb/in)
Echo RPPC 20/2 BK Copolymer	0.955	20	1,034	2.0
ECHO RPPC 20/6BK Copolymer	0.945	20	962	4.8
Echo RPPC 20/10 BK Copolymer	0.950	20	848	10

Made of 100% Post Industrial materials.

Various melts and izods.

Non Auto Approvals Lawn and Garden.

Cost Effective. Glass and filled grades.

## TRUNK LINERS & RAMPS



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## TPOs



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## RAVATUF® TPO

Material	Specific Gravity	Melt Flow Index (g/10min)	Tensile Modulus (MPa)	23 °C Notched Impact (kJ/m²)
Ravatuf 300XR Thermoplastic Olefin	1.05	22	1,880	11
Ravatuf 200XR Thermoplastic Olefin	1.02	20	1,300	36.5

TPO products with exceptional dimensional stability, impact and toughness.

Offered in a wide range of melt flow indexes.

Suitable for profile extrusion, sheet extrusion and molding applications.

Available with full UV package for full partial paint automotive exterior parts.

## INTERIOR PARTS



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KEY TAKEAWAY!



KEY TAKEAWAY  
**THINK GREEN**

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**ARE YOU BEING  
SUSTAINABLE ENOUGH?**



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