

Catalloy Reactor TPOs

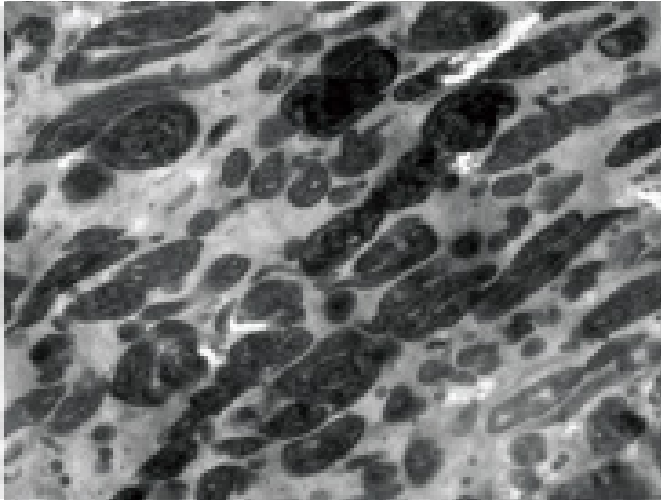
Innovative Materials for Sheet Extrusion
and Thermoforming Applications



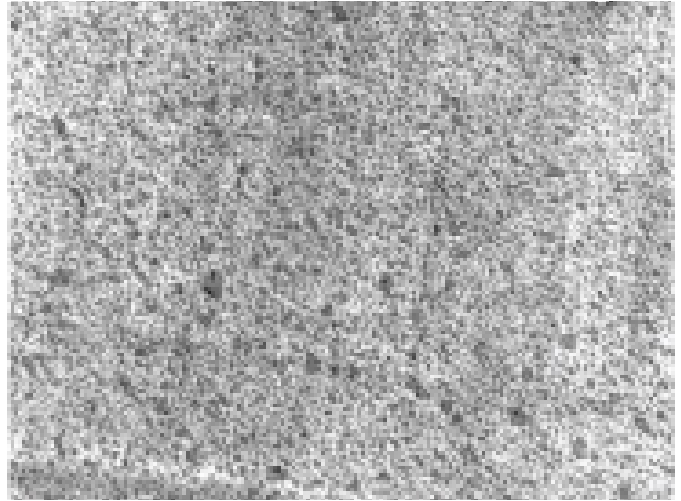
Product Information

Catalloy Process Resins are reactor thermoplastic polyolefins (reactor TPO) that combine the thermal advantages of Polypropylene (PP) with the high impact capabilities of Ethylene-Propylene Rubber (EPR). The process manufactures reactor-based alloys which feature high amounts of uniformly dispersed rubber within the crystalline PP matrix, enabling a unique property balance which cannot be achieved using conventional PP and polyethylene (PE) resins.

Conventional mechanically-compounded TPO



Hifax CA10A *Catalloy* rTPO



Photos taken at same magnification.

Note: Transmission Electron micrographs (TEM) of CA10A and a mechanically compounded grade. The uniform dispersion of the amorphous rubber phase (dark areas) in the *Hifax* CA10A material yields more consistent processing and end-use properties.

Product Benefits

The proprietary, multiple gas-phase reactor, *Catalloy* process produces unique grades such as *Hifax*, *Adflex*, *Softell* and *Hiflex* reactor TPOs. These product families offer enhanced properties compared to conventional PP and PE resin. These enhanced characteristics include:

- High coefficient of friction (COF) for anti-skid properties
- Ability to maintain physical properties at high and low temperatures
- Excellent puncture and tear resistance
- High dimensional stability (low CLTE)
- Light weight compared to compounded TPO's (Density = 0.88 g/cc)
- Compatible with PP and PE (in both compounded and coextruded solutions)
- Products with unique flexibility, appearance and haptics
- Ability to incorporate high filler loading while maintaining physical properties.
- Achieve long-term durability and colorfastness requirements for indoor/outdoor applications when properly stabilized
- Good chemical resistance, similar to PP
- High melt strength and grain retention during thermoforming process

Application Examples



Floor Mats & Mud Flaps



Truck Flooring & Cargo Liners



Marine Flooring



Instrument Panel Skins



Building & Construction

Product Selection Guide

LyondellBasell's extensive product offering of *Catalloy* process resins allows for the development of customized solutions in sheet and thermoforming applications.

Grade Name	Softell CA02A	Hifax CA10A	Softell CA7469A	Adflex Q200F	Hiflex CA7700A	Adflex KS021P	Adflex Q402F	Hifax CA138A
Melt Flow Rate (2.16 kg, 230°C) (g/10min) ISO 1133	0.60	0.60	0.50	0.80	1.40	0.90	0.65	2.80
Flexural Modulus (MPa) ISO 178	30	90	130	150	170	350	480	500
Tensile Stress at Break (MPa) ISO 527	10	11	7	13	10	10	21	10
Tensile Elongation at Break (%) ISO 527	500	500	500	500	450	500	800	400
Shore D Hardness (15 seconds) ISO 868	75*	30	87*	49	33	38	49	41
HDT (°C) (0.45 Mpa) ISO 75	38	40	39	44	40	52	57	58
VICAT (A50,°C) ISO 306	41	60	50	76	75	67	108	90
Charpy Notched Impact Strength (23°C) (kJ/m ²) ISO 179	NB	NB	NB	60	NB	70	86	70
Charpy Notched Impact Strength (-20°C) (kJ/m ²) ISO 179	NB	110	NB	87	NB	98	3.2	100
Charpy Notched Impact Strength (-40°C) (kJ/m ²) ISO 179	9	5	80	2.1	110	3.2	2.2	50
Gloss (measured at 60 degree, 45 mil IM plaque) ASTM D2457	Not Available	85	Not Available	86	Not Available	49	87	20
Product Features	Flexibility, Softness, Low Gloss, Impact Resistance	Flexibility, Softness, Low Gloss, Impact Resistance	Soft Touch, Flexibility, Matte Finish, Impact Resistance	Flexibility, High Melt Temperature, Impact Resistance	Flexibility and Softness, Low Temp. Impact	Soft Touch, Matte Finish, Impact Resistance	Stiffness and Impact Balance	"Stiffness and Impact Balance, Low Temp. Impact, Low Gloss "

*Denotes a value of Shore A Hardness

ABOUT US

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