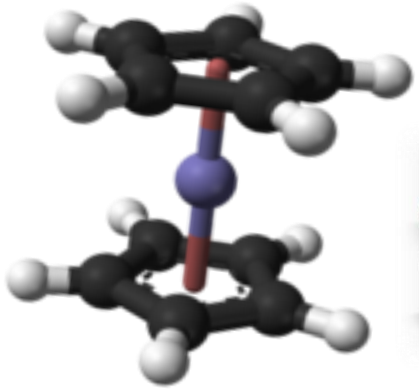
SolutionPartner



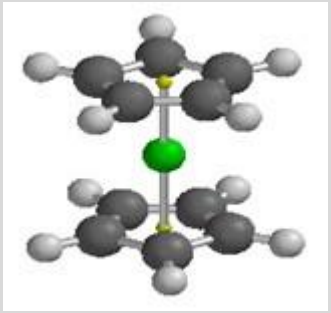
Metallocene Polypropylene

LG Chem

Metallocene Catalyst based Polyproplene

SolutionPartner

Metallocene single site Catalyst
Developed by LG Chem

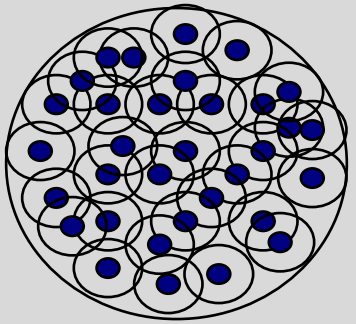


Propylene

polymerization

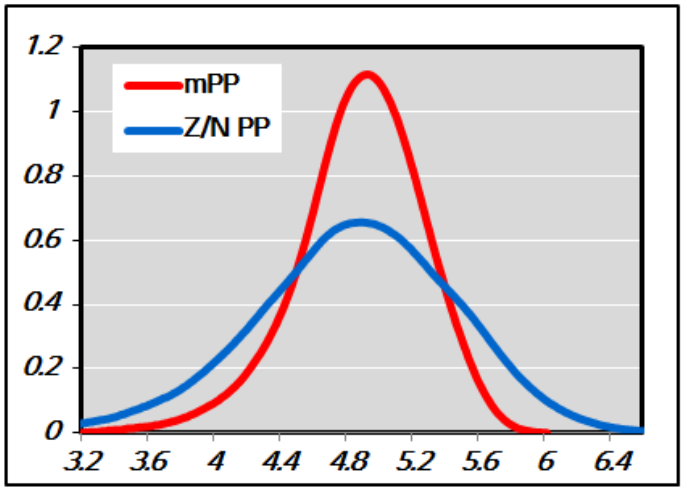
Or Ethylene

Metallocene PP



Metallocene PE, POE

- High Isotacticity(low XS)
- Very Narrow MWD
- Excellent spinnability & drawability(Fine denier fabrics)
- Lower Tm(Low processing Temp.)
- Low TVOC(Less fumes and odorless)



Physical property of Metallocene Polypropylene

SolutionPartner

Melting Temperature of Metallocene homo PP is about 10℃ lower than that of Z-N PP.
Metallocene Homo PP has slightly better physical properties than general homo PP.

Properties		Unit	mPP (Metallocene Homo)	Z-N PP (General Homo)
MI		g/10min	25	25
Xylene Soluble		wt%	<1.0	3.0 ~ 4.5
DSC	Tm	℃	150	160
	Tc	℃	112	115
Tensile Strength at Yield		kg/㎠	320 ~ 340	300 ~ 320
Flexural Modulus		kg/㎠	16,000 ~ 17,000	15,000 ~ 16,000
Flexural Strength		kg/㎠	480 ~ 510	450 ~ 480

Tm : Melting Temp., Tc : Crystallization Temp.

Low Emission Specification in Europe

SolutionPartner

European Car Makers

VW
Audi
Mercedes
BMW...

Emission requirments for interior part

	Method	specification
Odor	VDA270	< 3~3.5
Total Carbon	VDA277	40~50 ug/g
VOC/FOG	VDA278	100/250 ppm

Interior Part : Pillar Trim, Door Trim, Instrument Panel, Board Load Floor, Tail Gate Trim, Glove Box etc

Interior Part

Door module

In-panel

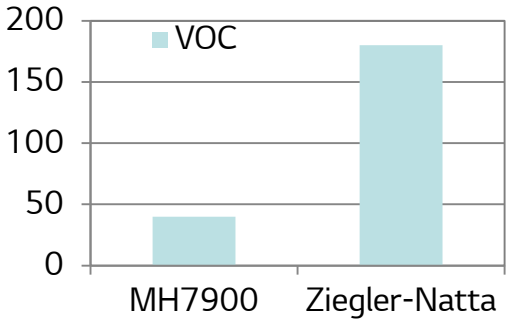
MH7900(MH1700, MH1850) for automotive compound use

SolutionPartner

- Very High Flowability
- No peroxide
- Low Xylene Soluble
- Less fumes and oiligomers

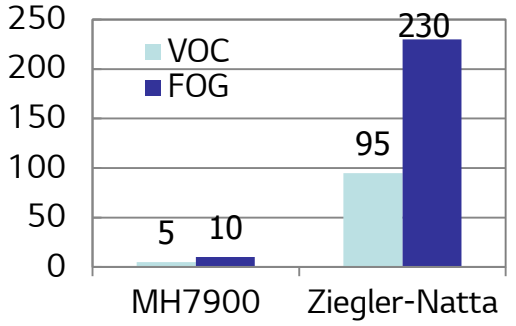
- Automotive Low Emission Part
  - Very Low VOC and FOG value
  - Environmentally friendly

VOC content of MH7900 is much lower than Z-N based PP.



VDA277 method

Total Carbon Emission(120℃, 5 hrs)



VDA278 method

VOC(90℃, 30min) & FOG(120℃, 60 min)

Advantages of Metallocene Polypropylene

SolutionPartner

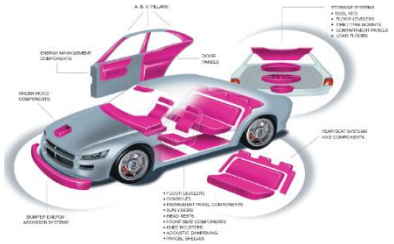
MH7700

Spun bond / Melt blown Fiber

MH1850

Thin Wall Injection

Expanded Polypropylene



Medical applications

MH7800/MH7900/MH1850

LWRT/LFT compound
for automotive

LFT : Long glass Fiber Thermoplastic
LWRT : Low Weight Reinforced Thermoplastic

LUCENE Metallocene Homo Polypropylenes

SolutionPartner

Properties	Method	Test Condition	Unit	MH7700	MH1700	MH1850	MH7800	MH7900
Physical								
Melt Flow Rate	ASTM D1238	230℃/2.16 kg	g/10 min	25	40	60	100	150
Density	ASTM D1505	-	g/cm^3	0.90	0.90	0.90	0.90	0.90
Mechanical								
Tensile Strength at Yield	ASTM D638	50 mm/min	kgf/cm^2	360	360	380	370	370
			MPa	36	36	38	37	37
Elongation at Break	ASTM D638	50 mm/min	%	< 500	<500	< 100	<50	< 50
Flexural Modulus	ASTM D790	28 mm/min	kgf/cm^2	16,000	16,000	20,000	17,000	17,000
			MPa	1,600	1,600	2,000	1,700	1,700
Izod Impact Strength	ASTM D256	23℃ (Notched)	kg·cm/cm	3.0	3.0	3.0	3.0	3.0
Thermal								
Melting Temperatures	-	℃	℃	150	150	153	150	150
			˚F	302	302	307	302	302
Usage	-	-	-	Injection. Fiber	Compounding	TWIM Compounding	LWRT[1]	compounding LFT [2]

[1] LWRT : Low Weight Reinforced Thermoplastic
[2] LFT : Long Fiber Reinforced Thermoplastics

Thank you !