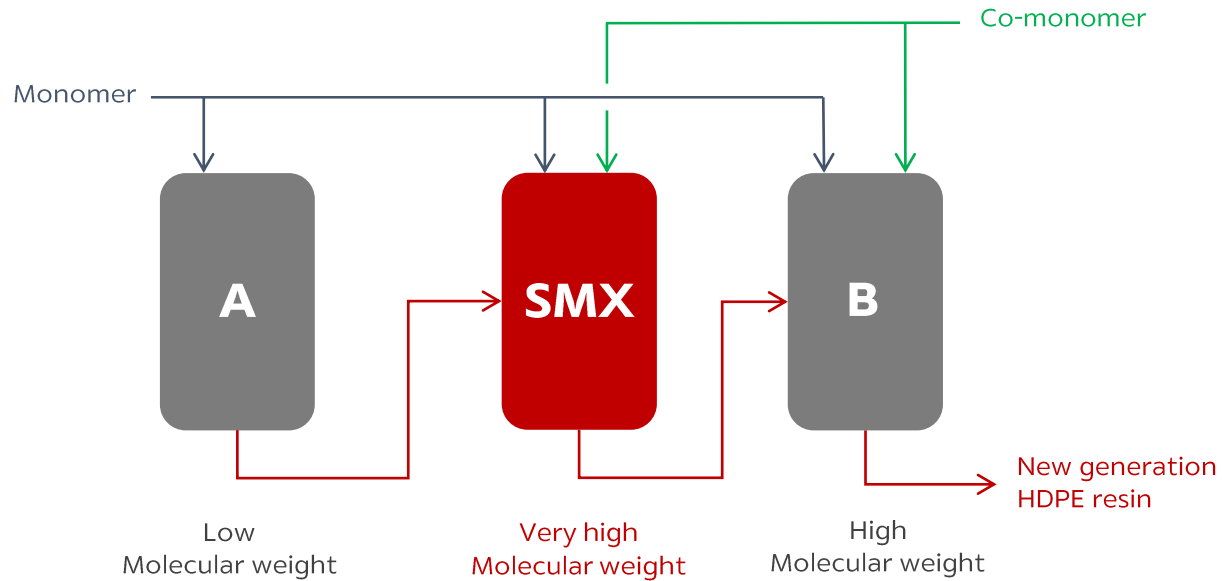


**NEW GENERATION  
HDPE RESIN FOR  
CONSUMER FILM  
(S199F)**



# NEW GENERATION HDPE RESIN FROM SMX TECHNOLOGY™

## SCG HDPE PRODUCTION PROCESS DIAGRAM



- ✓ Upgrading our existing bimodal to multimodal technology by adding third small reactor (SMX) at HDPE#4
- ✓ Resulting in unique balance of mechanical and processing properties for our products



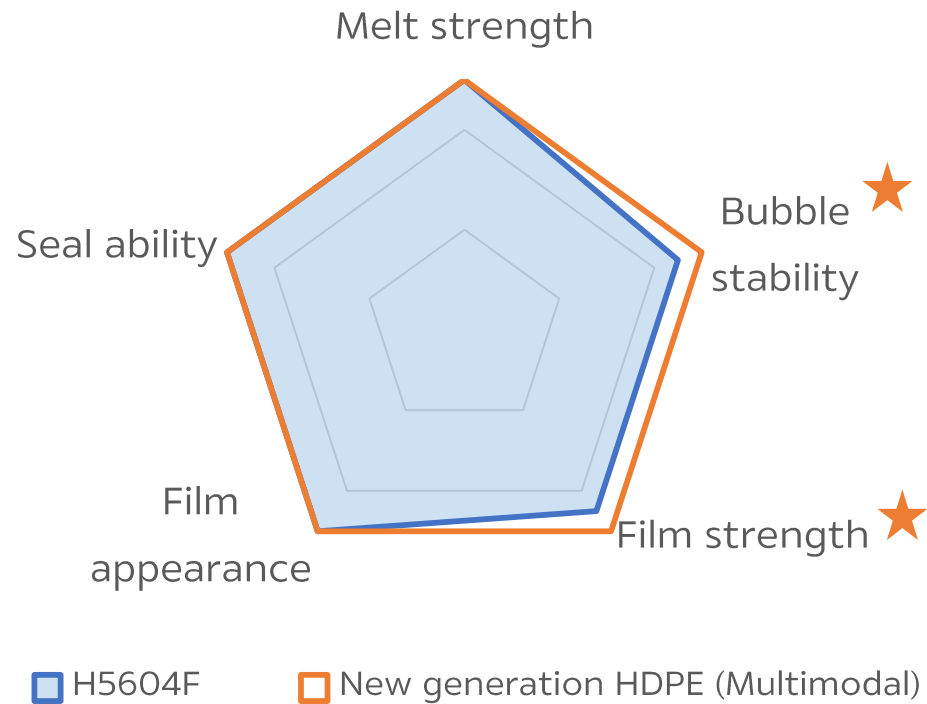
## BENEFITS TO END PRODUCTS

- ✚ **Low molecular weight (A)**
  - ✓ **Stiffness**
  - ✓ **Process ability**
- ✚ **High molecular weight (B)**
  - ✓ **Toughness**
- ✚ **Very high molecular weight (SMX)**
  - ✓ **Enhance mechanical properties**

SMX Technology™ = **SCG M**ultimodal **eX**cellent Technology

# KEY PRODUCT PROPERTIES AND PRODUCT CHARACTERISTICS

## KEY PRODUCT PROPERTIES



**Ready to commercialize by Jan 2021**



## PRODUCT CHARACTERISTICS

	H5604F	S199F*
<b>Technology</b>	Bimodal	Multimodal (SMX)
<b>Melt Index</b> (g/10min) Load 2.16 kg. 190°C	0.04	0.04
<b>Density</b> (g/cm <sup>3</sup> ) Anneal @100°C	0.954	0.954
<b>Dart drop</b> (g)	139	>180
<b>Tensile at break</b> (kg/cm <sup>3</sup> ) MD/TD	620/310	900/600

\* Internal laboratory testing result on product sample with 100% HDPE formulation and film thickness 12 micron

# RECOMMENDED APPLICATIONS

## CONSUMER FILM



*Shopping bag*



*Roll bag*



*Trash bag*



*PE Glove*

## INDUSTRIAL FILM



*Industrial liner*



*Cover film*

## PRODUCT CERTIFICATION

- ✓ US FDA 21 CFR 177.1520
- ✓ Regulation (EU) No. 10/2011
- ✓ Packaging and Packaging waste directive 94/62/EC/CONEG
- ✓ RoHS
- ✓ GB
- ✓ JHOSPA (In progress)

# TESTING RESULT FROM KEY CUSTOMERS

Product application	Customer	Formulation	Film thickness	Product sample testing result				
				Process ability	Output	Film Strength	Film appearance	Cut / Seal / Pack
Shopping bag	<b>A</b>	HDPE 100%	12 micron	●	●	●	●	●
	<b>B</b>	HDPE 100%	10 micron	●	●	●	●	●
		HDPE + Scrap	10 micron	●	●	●	●	●
		HDPE + LLDPE + Scrap	15 micron	●	●	●	●	●
	<b>C</b>	HDPE + LLDPE + Scrap	12 micron	●	●	●	●	●
	<b>D</b>	HDPE + LLDPE	17 micron	●	●	●	●	●
Hot bag	<b>E</b>	HDPE + LLDPE	30 micron	●	●	●	●	●
PE Glove	<b>F</b>	HDPE + LLDPE	6 micron	●	●	●	●	●
Trash bag	<b>G</b>	HDPE + LLDPE	20 micron	●	●	●	●	●
		HDPE + Scrap	20 micron	●	●	●	●	●



= Better than conventional grade (H5604F)



= Similar to conventional grade (H5604F)



Remark: 3,000 Ton of product sample sold to key customers in domestic and export market