



# Delrin<sup>®</sup> Renewable Attributed

*The new renewable certified acetal homopolymer from DuPont*

DuPont Delrin<sup>®</sup>



# Delrin® Renewable Attributed – Breakthrough of Sustainability



Bio-waste

Bio-Methanol



Municipal waste

Heating source



Wind energy

Renewable-sourced electricity



Delrin® Renewable Attributed \*

=



Reduces CO<sub>2</sub> emissions



Reduces the use of fossil resources



Maintains identical properties



Delrin® Renewable Attributed:

Up to **75%** lower carbon footprint and up to **46%** reduced use of fossil resources vs. fossil-based Delrin®

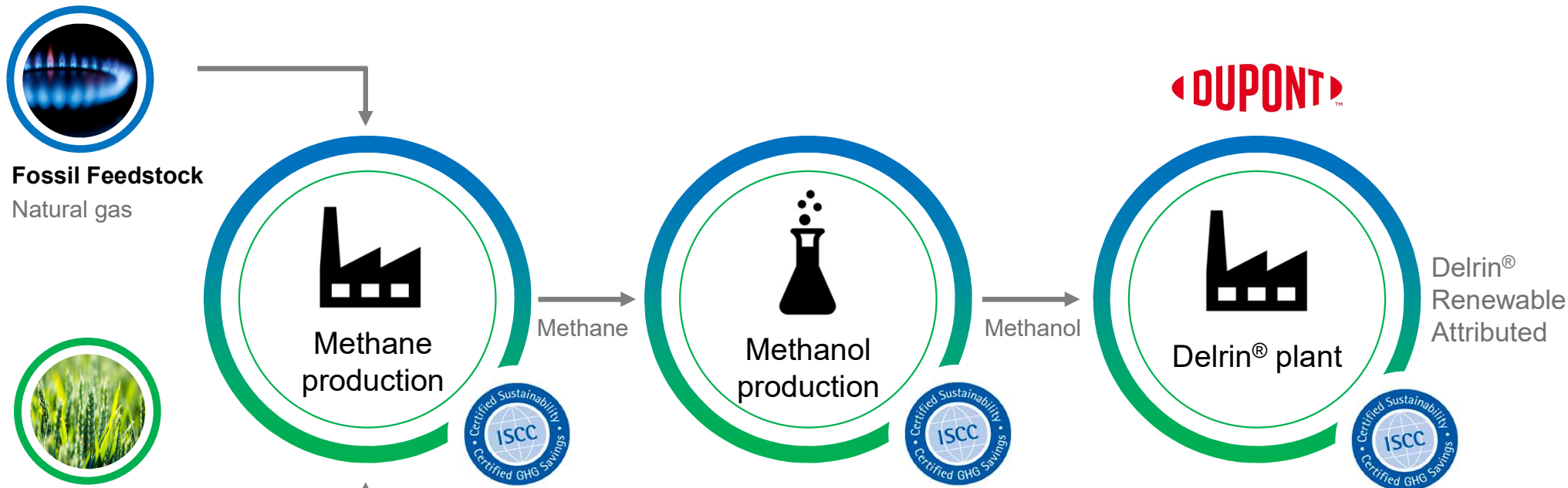
\* based on ISCC mass-balance

## Delrin<sup>®</sup> Renewable Attributed – Correct claims

- base polymer produced from 100% certified bio-feedstock from waste (ISCC mass balance)
- bio-feedstock from second-generation sources, not in competition with the food and feed chain
- 100% certified renewable electricity used for production
- lower product cradle-to-gate carbon footprint
- reduction of non-renewable fossil resource usage



# From biomass waste to Delrin® Renewable Attributed

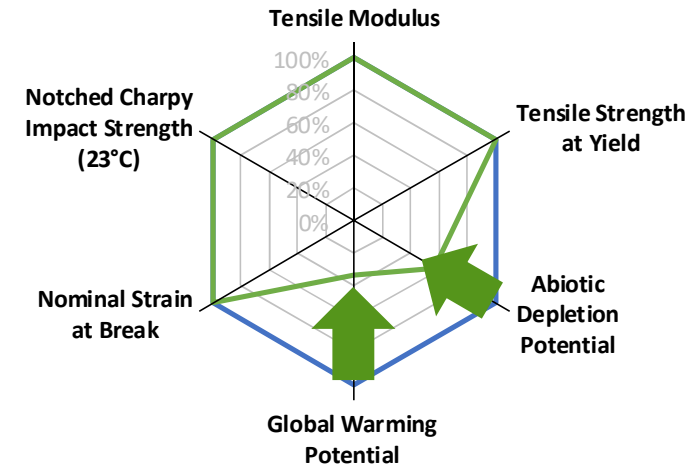


**Sustainability certificates are passed over the supply chain.  
An externally audited system verifies the origin of the upstream  
feedstock and the conversion for all the production steps**



# Delrin® RASC655 Renewable Attributed

		Delrin® SC655	Delrin® RASC655 Renewable Attributed
Global warming potential	%	100	26
Abiotic Depletion Potential	%	100	54
Melt mass-flow rate	g/10min	15	
Molding shrinkage (parallel / normal)	%	2.0 / 1.9	
Density	kg/m <sup>3</sup>	1420	
Melt temperature	°C	178	
Tensile modulus	MPa	3100	
Yield stress	MPa	71	
Yield strain	%	17	
Nominal strain at break	%	30	
Charpy notched impact strength (23°C)	kJ/m <sup>2</sup>	9	
Charpy notched impact strength (-30°C)	kJ/m <sup>2</sup>	8	



— Delrin® SC655

— Delrin® RASC655 Renewable Attributed

**Same processing, mechanical and tribological properties.**

**Allows fast adoption !**



Manufacturing according to GMP principles, Food contact statements (EU/FDA), Testing against selected parts USP Class VI, Testing against relevant parts ISO 10993, extended change management process.

# Delrin<sup>®</sup> Renewable Attributed solution space

Transformations in mobility, healthy living, and sustainability trend driving significant change in consumer behavior. Rewarded & Unique portfolio to meet the most stringent requirements.



## Global Mega-trends

### Automotive



*Design cars of the future for sustainability, comfort, and safety*

### Industrial



*Automation drives growth in material handling, food processing*

### Consumer



*Lifestyles driving growth in sports and fitness devices like urban mobility*

### Healthcare



*Smart healthcare enable Bio monitoring, smooth drug delivery*

## Portfolio offering

	General Purpose enhanced for car interior, optimized productivity	General Purpose enhanced for Food / Water Contact (FG)	Designed for Healthcare (Special Control, SC)
High Performance	RA100CPE	RAFG100	
High Viscosity	RA300CPE		
High Productivity	RA500CPE	RAFG500P	RASC655
Medium Viscosity	RA511CPE	RAFG511DP	
Enhanced Tribology			RASC698

Further portfolio based on business case



# Summary: Delrin<sup>®</sup> Renewable Attributed helps achieving your sustainability goals



**Increase the amount of renewable material in your products**

100% of the base polymer of Delrin<sup>®</sup> Renewable Attributed is produced from renewable feedstock (mass balance)



**Design parts that are thinner and lighter**

The unique combination of stiffness and toughness of Delrin<sup>®</sup> compared to fossil based copolymer unlocks sustainable design



**Give value to your waste**

Delrin<sup>®</sup> can be reground multiple times without any loss of material properties



**Reduce your CO<sub>2</sub> emission and fossil resource use**

When using Delrin<sup>®</sup> Renewable Attributed, you design parts that are more sustainable: think of CO<sub>2</sub> / part !





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