

Black Masterbatch Selection Guide for Compounding, Moulding/Sheet Extrusion and Recycling

■ Compounding

Selection factors:

- Tint
- Jetness
- Versatility

Recommended grades

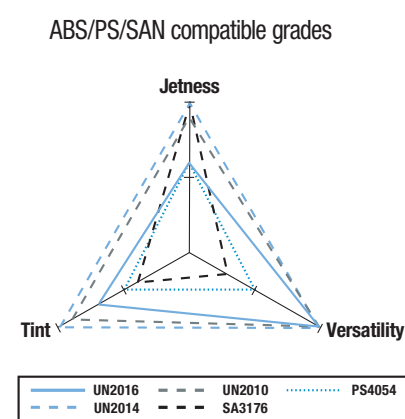
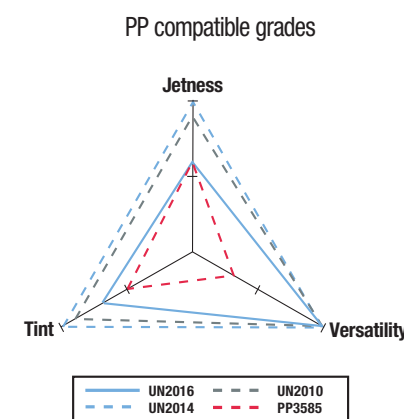
Grade	Description
EG3807	High jet black masterbatch suitable for engineering polymers, particularly PC
PA3785	High tint and high jet black masterbatch for PA-6 and PA6-6
PP3585	Medium jet black masterbatch for PP
PS4054	Medium jet black masterbatch for styrenics
SA3176	High jet black, blue tone masterbatch suitable for ABS/SAN
UN2014	Versatile blue tone, high tint and high jet black masterbatch
UN2010	Versatile high jet black masterbatch
UN2016	Versatile medium jet black and medium tint masterbatch

Selection table

Grade	PE	PP	PS	ABS	SAN	PA	PC	Other engineering polymers
EG3807				+	+	+	++	++
PA3785						++		
PP3585		++						
PS4054			++	++	++			
SA3176			++	++	++			
UN2014	++	++	++	++	++	+	+	
UN2010	++	++	++	++	++	+	+	
UN2016	++	++	++	++	++	+	+	

Key: ++ Suitable + Limited Suitability

Star diagrams



Performance improves from chart centre

■ Moulding/Sheet Extrusion

Selection factors:

- Jetness
- Undertone
- Flow
- Versatility

Recommended grades Injection Moulding

Grade	Description
PA3785	High jet black masterbatch for PA-6 and PA6-6
PE2813	Compliant black masterbatch for FDA for polyolefins
PP3393	High flow, medium jet black masterbatch for PP
UN2014	Versatile high jet black, blue tone masterbatch
UN2016	Versatile medium jet black masterbatch

Selection table

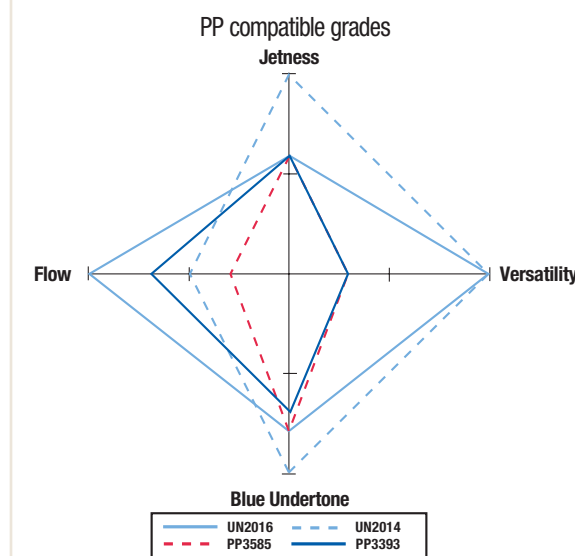
Grade	Process	PE	PP	PS	ABS	SAN	PA	PC	PET
PA3785	IM						++		
PE2813	IM/Sheet	++	++						
PP3393	IM		++						
PP3585	Sheet		++						
PS0469	Sheet			++	+	+			
PS4255	Sheet			++	+	+			
PS4256	Sheet			++	+	+			
UN2014	IM	++	++	++	++	++	+	+	
UN2016	IM	++	++	++	++	++	+	+	

Key: ++ Suitable + Limited Suitability

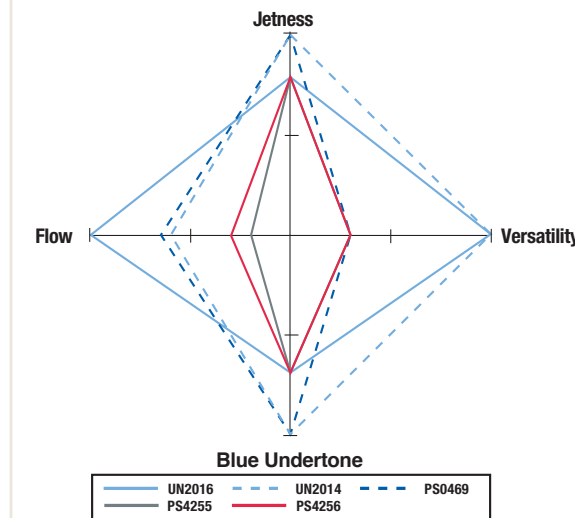
Sheet Extrusion

Grade	Description
PE2813	Compliant black masterbatch for FDA for polyolefins
PP3585	Medium jet black masterbatch for PP
PS0469	High jet black, blue tone masterbatch for styrenics
PS4255	Medium jet black masterbatch for styrenics
PS4256	Economy medium jet black masterbatch for styrenics

Star diagrams



ABS/PS/SAN compatible grades



Performance improves from chart centre

■ Recycling

Selection factors:

- Tint
- Versatility

Recommended grades

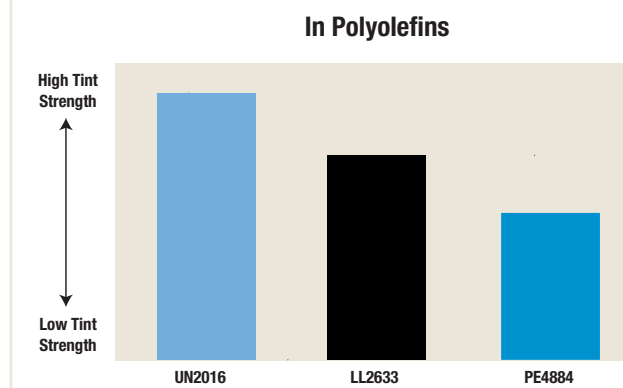
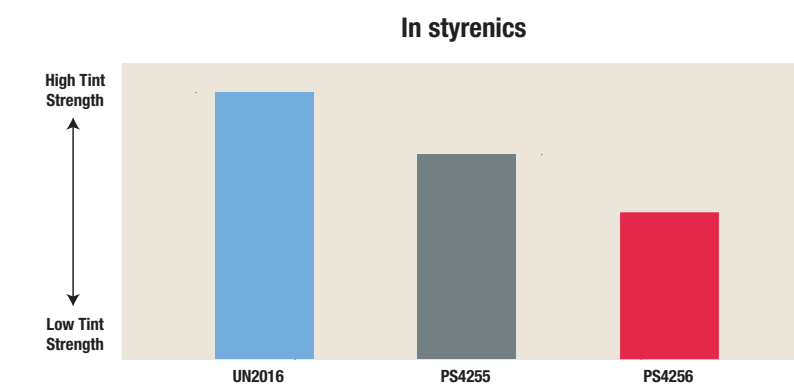
Grade	Description
LL2633	Medium tint black masterbatch for polyolefins
LL2633	Economy black masterbatch for polyolefins
PS4255	Medium jet black masterbatch for styrenics
PS4256	Economy medium jet black masterbatch for styrenics
UN2016	Versatile high tint black masterbatch for polyolefins and styrenics

Selection table

Grade	PE	PP	PS	ABS	SAN
LL2633	++	++			
PE4884	++	++			
PS4255			++	++	+
PS4256			++	++	+
UN2016	++	++	++	++	++

Key: ++ Suitable + Limited Suitability

Relative tinting strength



■ Explanatory Notes

Jetness (or masstone): the absorbance of the total visible light by the black coloured moulded plastic part. This can be measured by the L* value within the CIELAB co-ordinates: the more jet the product, the lower the L* value.
More details can be found in the Cabot brochure "Color Measurement for Carbon Black Filled Plastics".

Undertone: the blueness/yellowness of the moulded part measured within the CIELAB co-ordinates. A negative b* value indicates a blue undertone: the more negative the value, the bluer the undertone.
More details can be found in the Cabot brochure "Color Measurement for Carbon Black Filled Plastics".

Flow: generally measured by the MFI (Melt Flow Index). MFI is the output rate in grams that occurs in 10 minutes through a standard die when a fixed pressure is applied to the melt via a piston at a given load and at a certain temperature.
Further details can be found in the Cabot Brochure "Melt Flow Index".

Versatility: the higher the versatility, the more polymer systems the masterbatch can be diluted in.

Tinting Strength: the ability of the black masterbatch to reduce the amount of light reflected so masking any colour given by the processor's polymer resin e.g. coloured recyclate. The tinting strength of a black masterbatch can typically be measured from the reflectance of a grey compound after mixing with a white pigment. Typically, the L* value of the grey compound is measured within the CIELAB co-ordinates.

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BIMB-MReg-Cyprg-Recycl/1/0.08/E

MASTERBATCHES



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