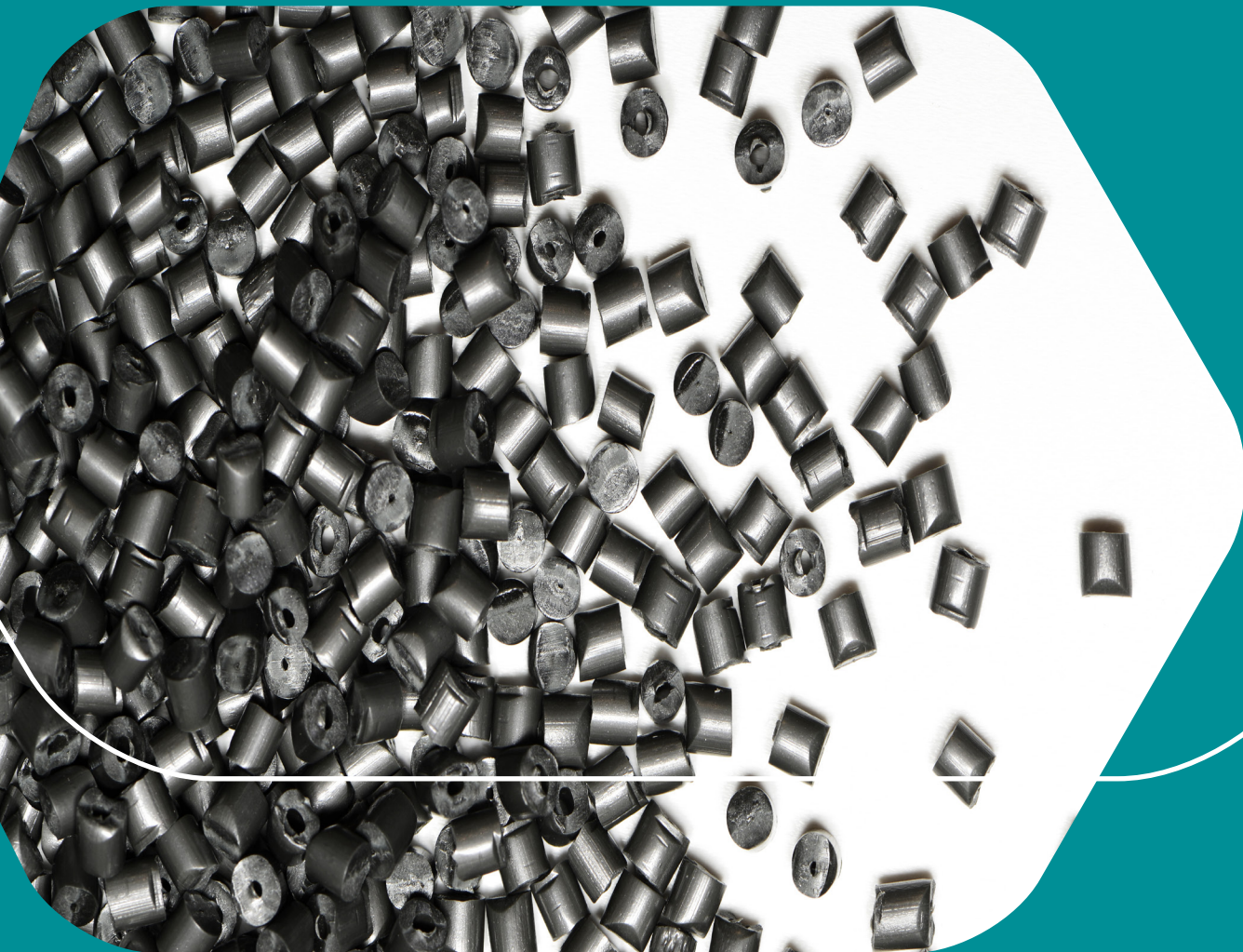


Creating Material Change



Mechanical HDPE Masterbatch Technical Data Sheet



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Nanomaterial Enhanced HDPE Masterbatch

Haydale's nanomaterial enhanced masterbatch is a highly loaded mixture of a bespoke nanomaterial in High Density Polyethylene (HDPE), designed to deliver improvements to mechanical performance using nanomaterial reinforcement and enable lightweighting of plastic products; a key driver to reducing the carbon footprint of plastics and improving their environmental impact and sustainability.

The nanomaterial enhanced masterbatch provides the following improvements in mechanical performance at the recommended LDR:

- Tensile strength and modulus up to 24%
- Flexural strength and modulus up to 41%
- Impact strength up to 30%

Product code:	TM-MEC
Physical form:	Pellets (2-4 mm)
Appearance:	Black
Product status:	Commercial
Thermoplastic grade:	High Density Polyethylene, blow moulding grade (bespoke formulations are available on request)
Market sectors:	Packaging, Construction, Pipes

TM-MEC Properties

Property Tested	Masterbatch Loading	Method Standard	Units	Value
MFI	As supplied	ISO 1133 (190°C/5 kg)	g/10 min	0.38
Density	As supplied	ASTM D792	g/cm ³	0.99
Tensile Strength	50% LDR	ISO 527	MPa	33
Tensile Modulus	50% LDR	ISO 527	MPa	1455
Flexural Strength	50% LDR	ISO 178	MPa	28
Flexural Modulus	50% LDR	ISO 178	MPa	1070

The properties reported herein are typical of the product, but do not reflect normal testing variance and so should not be used for product specification purposes. Values are rounded. Physical properties were determined using injection moulded samples.

Processing recommendations will be supplied on purchase, dilution with further plastic is typically required, loading dependant on application.

For bespoke formulation into alternative thermoplastic grades or types, please contact Haydale.

The content supplied in this technical data sheet ("Information") supersedes all previous versions supplied. Version 2, April 2021

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