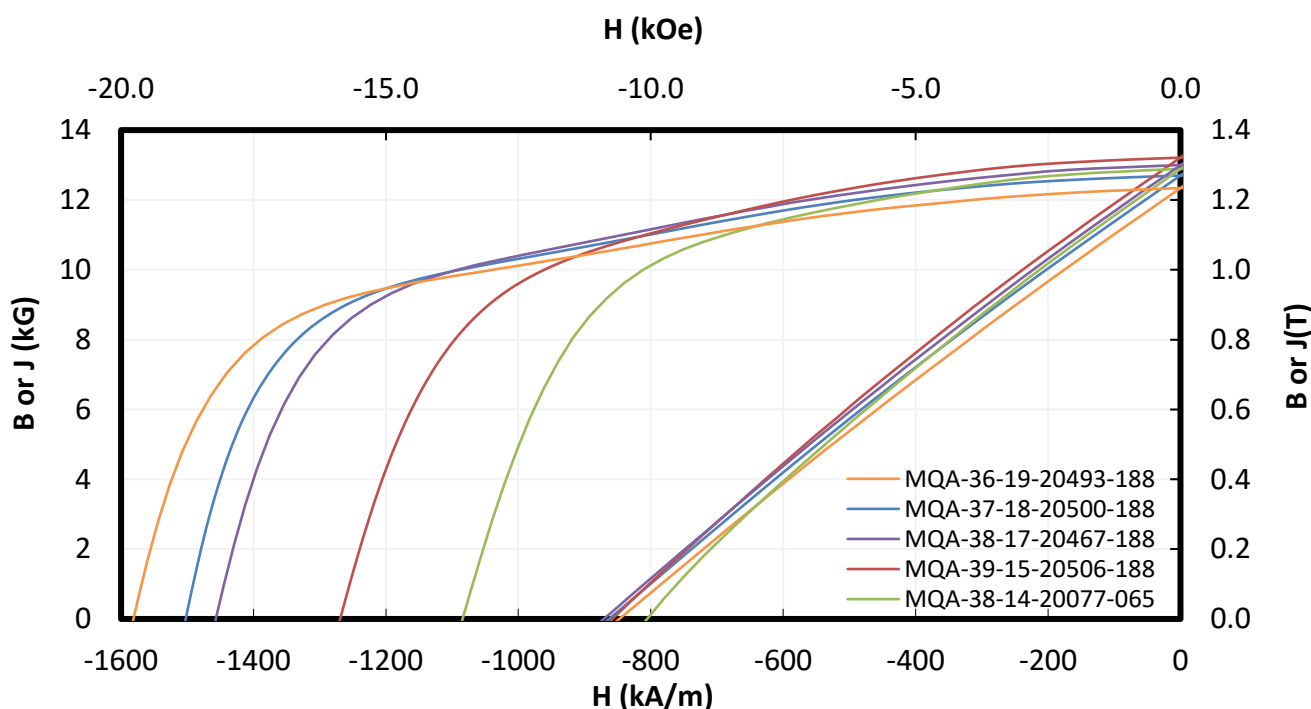


- MQA has **substantially** higher energy product and remanence than isotropic powders
- Competitive with existing powders for anisotropic bonded magnets

		MQA-36-19 -20493-188	MQA-37-18 -20500-188	MQA-38-17 -20467-188	MQA-39-15 -20506-188	MQA-38-14 -20077-065
Residual Induction, B_r	mT	1235	1269	1299	1317	1283
	(kG)	(12.4)	(12.7)	(13.0)	(13.2)	(12.8)
Energy Product, $(BH)_{max}$	kJ/m ³	275	289	298	306	286
	(MGOe)	(34.5)	(36.3)	(37.5)	(38.4)	(36.0)
Intrinsic Coercivity, H_{ci}	kA/m	1576	1491	1448	1265	1084
	(kOe)	(19.8)	(18.7)	(18.2)	(15.9)	(13.6)
Coercive Force, H_c	kA/m	844	857	863	851	801
	(kOe)	(10.6)	(10.8)	(10.9)	(10.7)	(10.1)

Powder Characteristics



Properties indicated based on development samples. This product is currently in the development stage and is not commercially available for purchase.

If your company has expertise to develop this material, we invite you to *connect* with us.

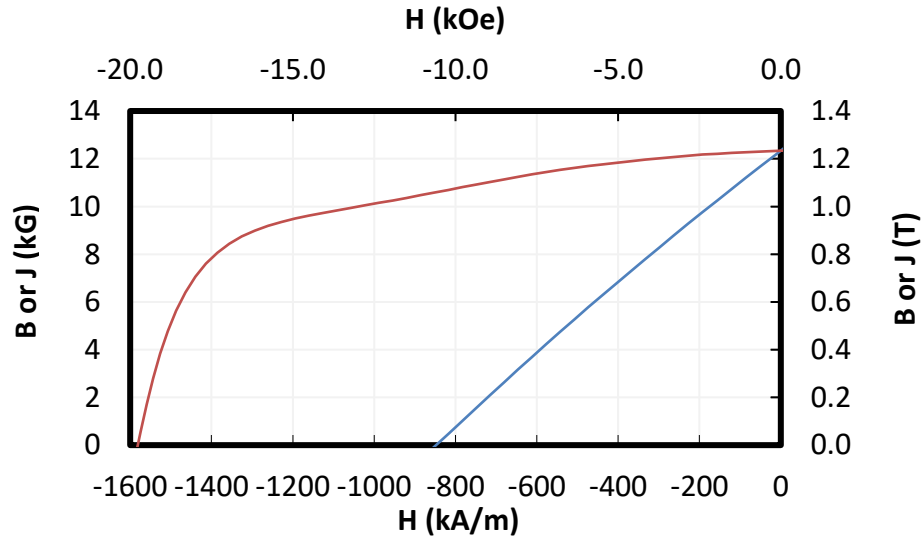
MQA™-36-19-20493-188 **ANISOTROPIC POWDER**

BENEFITS

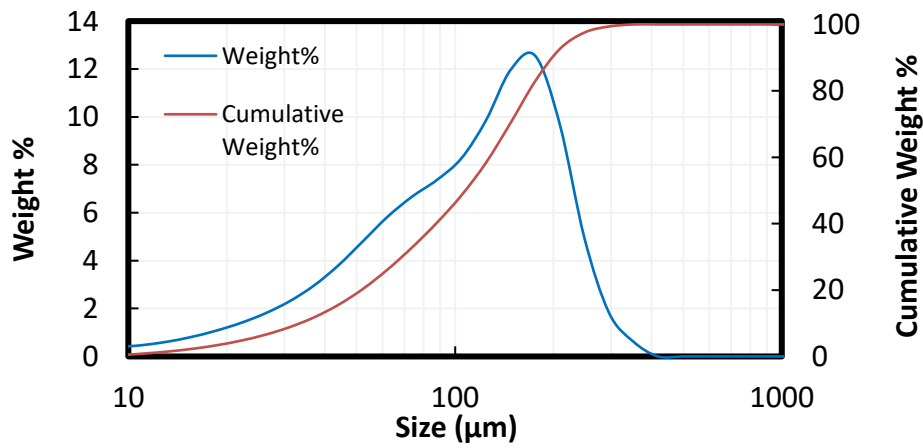
- MQA™-36-19 has the highest coercivity among the MQA grades
- MQA™-36-19 is suitable for high temperature applications up to 150°C
- Dysprosium and Cobalt free

POWDER CHARACTERISTICS

	<u>SI</u>	<u>CGS</u>
Residual Induction, B_r	1235 mT	12.4 kG
Energy Product, $(BH)_{max}$	275 kJ/m ³	34.5 MGOe
Intrinsic Coercivity, H_{ci}	1576 kA/m	19.8 kOe
Coercive Force, H_c	844 kA/m	10.6 kOe
Temperature Coefficient of B_r , α to 100°C	-0.14 %/°C	
Temperature Coefficient of H_{ci} , β to 100°C	-0.60 %/°C	
Curie Temperature, T_c	311 °C	
Powder Density	7.51 g/cm ³	



PHYSICAL CHARACTERISTICS



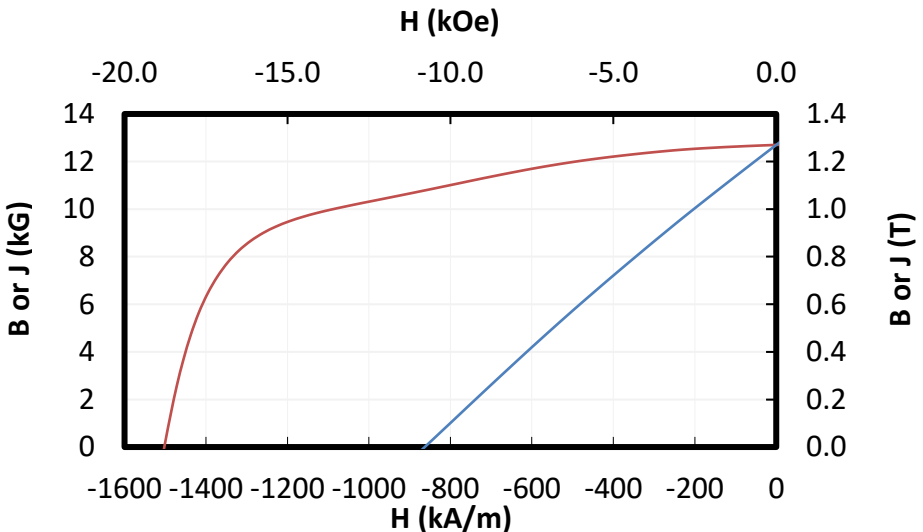
MQA™-37-18-20500-188 **ANISOTROPIC POWDER**

BENEFITS

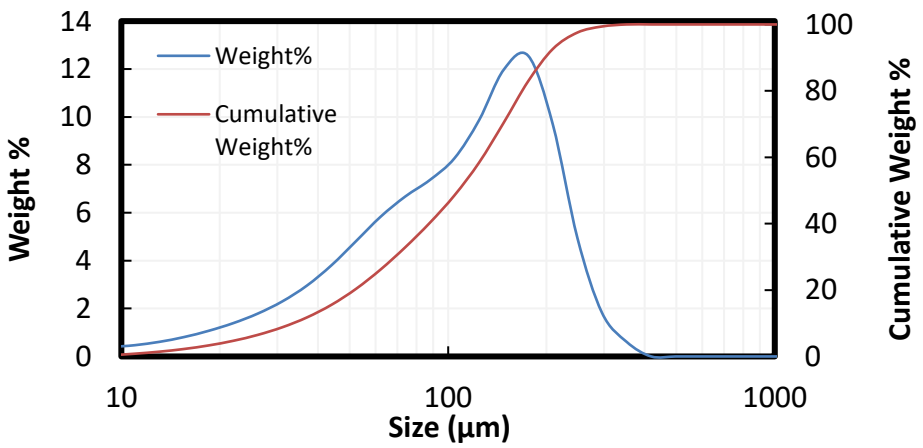
- MQA™-37-18 enables IM magnets up to 12 MGOe and CM magnets up to 17 MGOe
- MQA™-37-18 combines higher energy bonded magnets with good aging performance up to 140°C
- Dysprosium and Cobalt free

POWDER CHARACTERISTICS

	<u>SI</u>	<u>CGS</u>
Residual Induction, B_r	1269 mT	12.7 kG
Energy Product, $(BH)_{max}$	289 kJ/m ³	36.3 MGOe
Intrinsic Coercivity, H_{ci}	1491 kA/m	18.7 kOe
Coercive Force, H_c	857 kA/m	10.8 kOe
Temperature Coefficient of B_r , α to 100°C	-0.13 %/°C	
Temperature Coefficient of H_{ci} , β to 100°C	-0.61 %/°C	
Curie Temperature, T_c	311 °C	
Powder Density	7.54 g/cm ³	



PHYSICAL CHARACTERISTICS



MQA™-38-17-20467-188

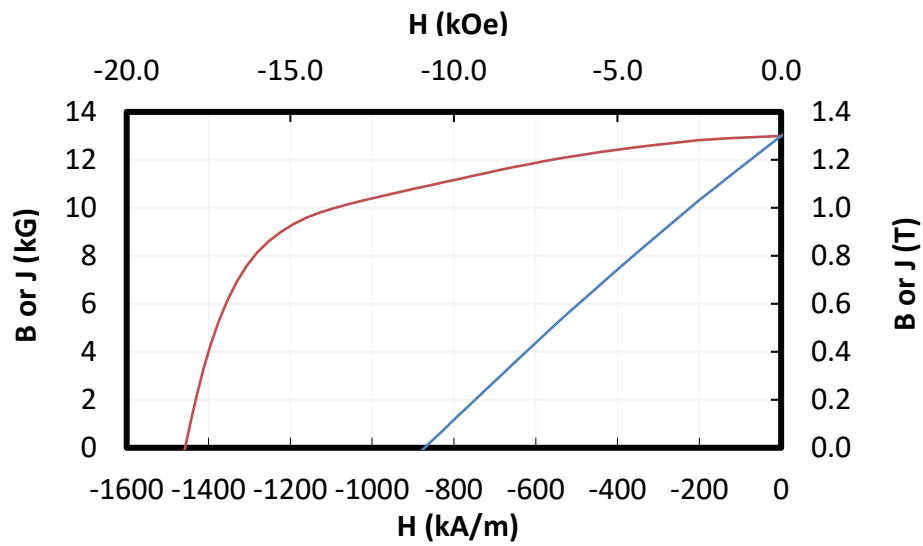
ANISOTROPIC
POWDER

BENEFITS

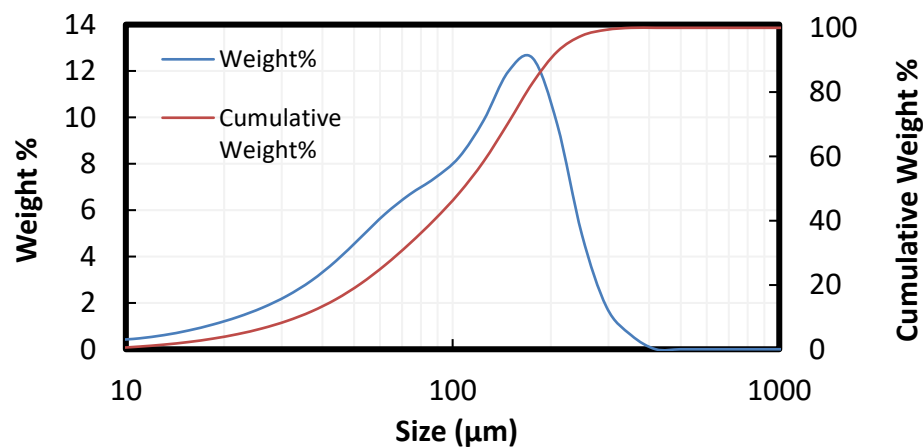
- MQA™-38-17 has higher energy product and remanence than isotropic powders
- MQA™-38-17 is a high temperature grade powder with improved aging performance
- Dysprosium and Cobalt free

POWDER CHARACTERISTICS

	<u>SI</u>	<u>CGS</u>
Residual Induction, B_r	1299 mT	13.0 kG
Energy Product, $(BH)_{max}$	298 kJ/m ³	37.5 MGOe
Intrinsic Coercivity, H_{ci}	1448 kA/m	18.2 kOe
Coercive Force, H_c	863 kA/m	10.9 kOe
Temperature Coefficient of B_r , α to 100°C	-0.14 %/°C	
Temperature Coefficient of H_{ci} , β to 100°C	-0.62 %/°C	
Curie Temperature, T_c	311 °C	
Powder Density	7.57 g/cm ³	



PHYSICAL CHARACTERISTICS



Properties indicated based on development samples; mass production powder properties may vary
www.magnequench.com

MQA™-39-15-20506-188

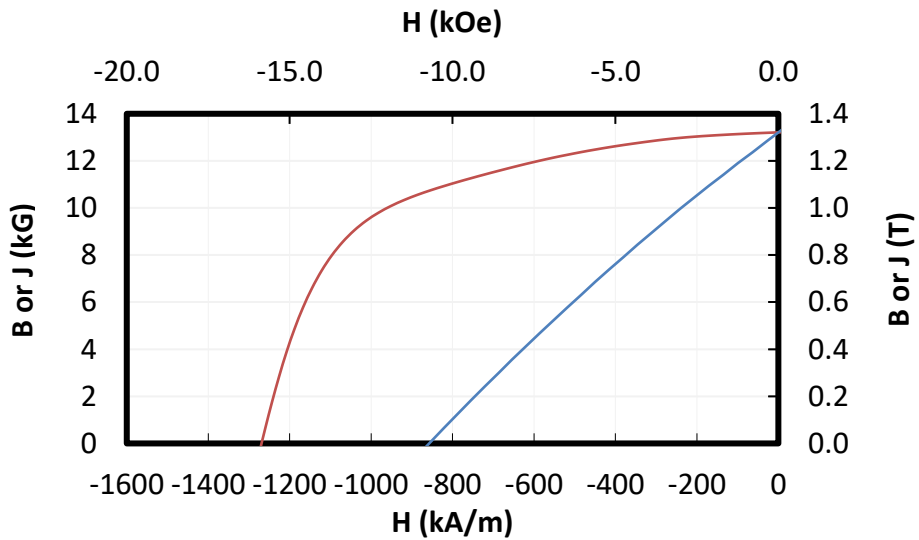
ANISOTROPIC
POWDER

BENEFITS

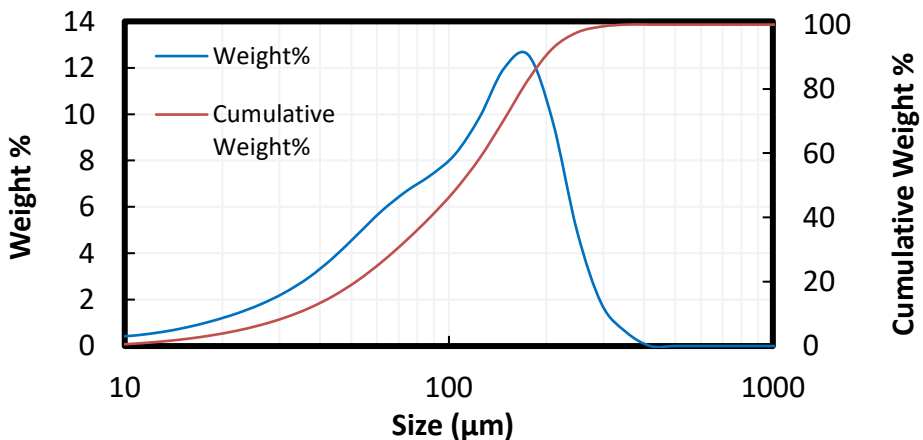
- MQA™-39-15-20506 has the highest energy product among the MQA grades
- Dysprosium and Cobalt free

POWDER CHARACTERISTICS

	<u>SI</u>	<u>CGS</u>
Residual Induction, B_r	1317 mT	13.2 kG
Energy Product, $(BH)_{max}$	306 kJ/m ³	38.4 MGOe
Intrinsic Coercivity, H_{ci}	1265 kA/m	15.9 kOe
Coercive Force, H_c	851 kA/m	10.7 kOe
Temperature Coefficient of B_r , α to 100°C	-0.14 %/°C	
Temperature Coefficient of H_{ci} , β to 100°C	-0.66 %/°C	
Curie Temperature, T_c	311 °C	
Powder Density	7.57 g/cm ³	



PHYSICAL CHARACTERISTICS



MQA™-38-14-20077-065

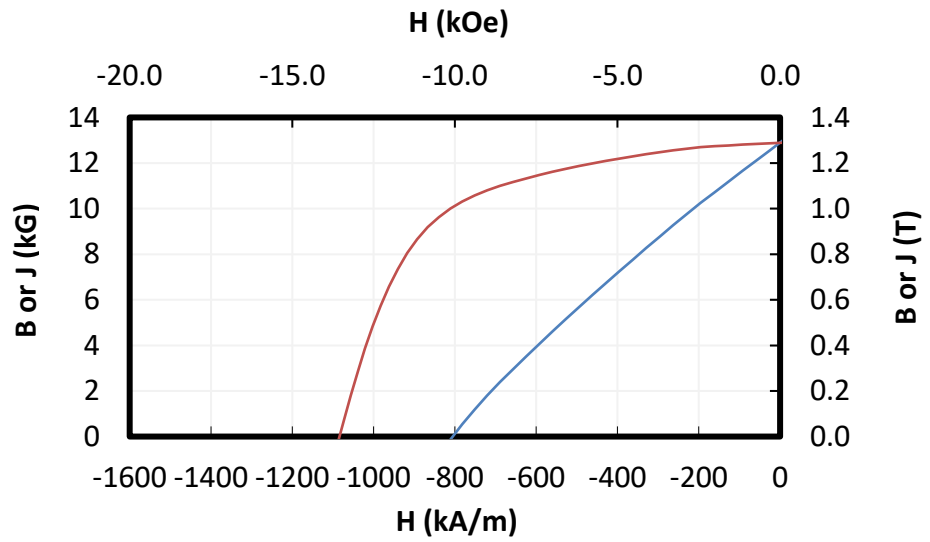
ANISOTROPIC POWDER

BENEFITS

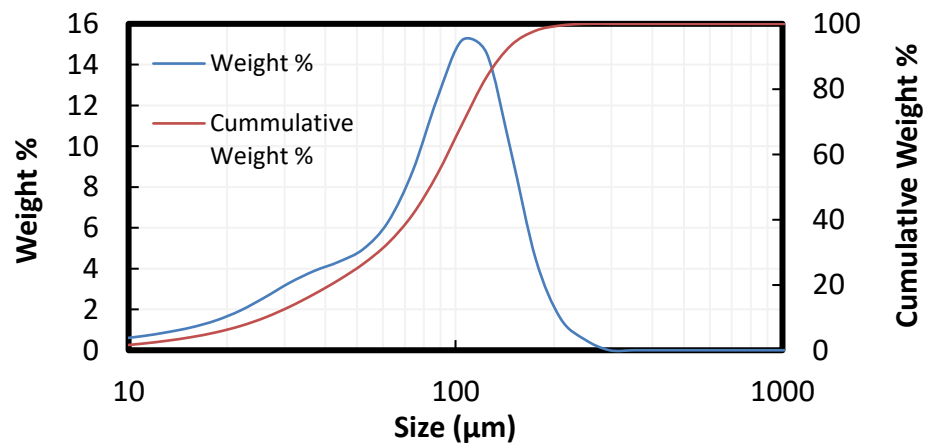
- MQA™-38-14 has higher energy product and remanence than isotropic powders

POWDER CHARACTERISTICS

	<u>SI</u>	<u>CGS</u>
Residual Induction, B_r	1283 mT	12.8 kG
Energy Product, $(BH)_{max}$	286 kJ/m ³	36.0 MGOe
Intrinsic Coercivity, H_{ci}	1084 kA/m	13.6 kOe
Coercive Force, H_c	801 kA/m	10.1 kOe
Temperature Coefficient of B_r , α to 100°C	-0.09 %/°C	
Temperature Coefficient of H_{ci} , β to 100°C	-0.66 %/°C	
Curie Temperature, T_c	369 °C	
Powder Density	7.51 g/cm ³	



PHYSICAL CHARACTERISTICS



Properties indicated based on development samples; mass production powder properties may vary
www.magnequench.com