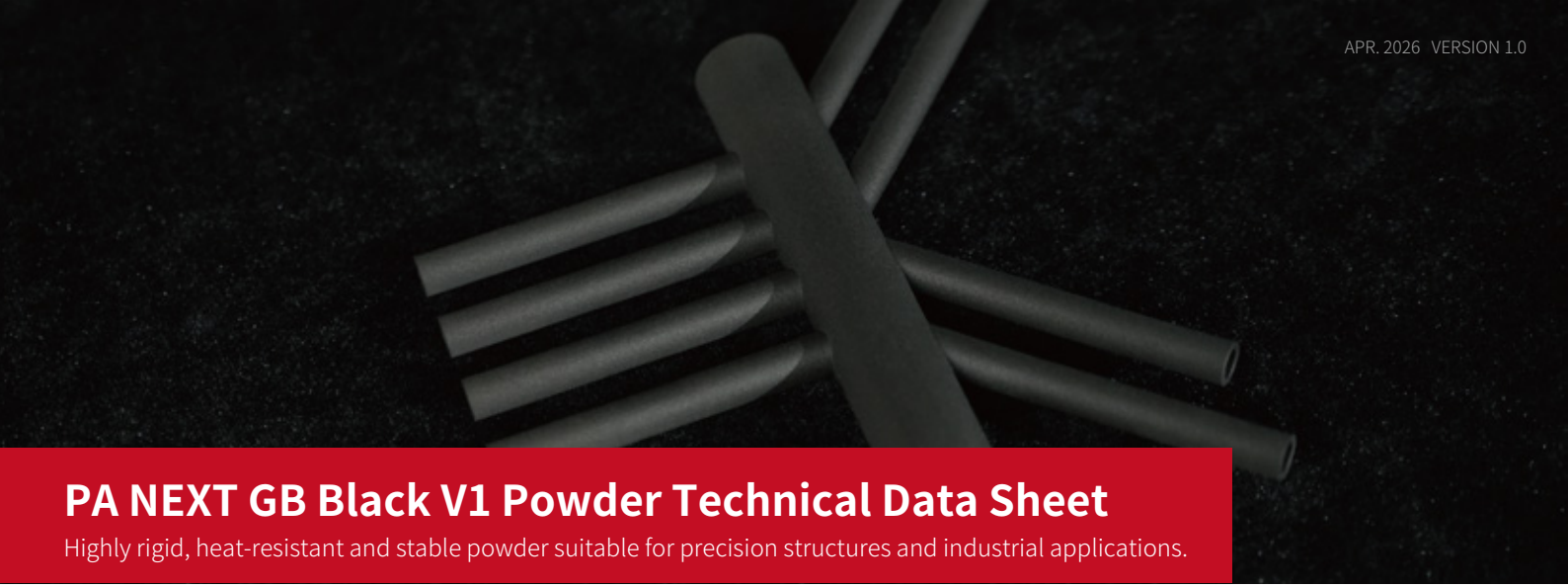

PA NEXT GB Black V1 Powder Technical Data Sheet

Highly rigid, heat-resistant and stable powder suitable for precision structures and industrial applications.

PA NEXT GB powder is a glass bead-filled material that combines high rigidity with excellent dimensional stability, heat resistance, and deformation resistance. It is ideal for batch production of high-precision industrial parts, delivering fine surface quality.

Benefits

- High rigidity, suitable for parts requiring high structural strength
- Outstanding heat resistance and strong deformation resistance
- High wear resistance
- Excellent dimensional stability, ideal for high-precision assembly parts
- Low warping, compatible with complex structural designs
- Balanced mechanical properties

Applications

- High-stiffness structural parts: such as equipment housings, connection brackets, and structural frames
- Load-bearing jigs and tools: tooling, fixtures, and replacement parts under prolonged stress
- Heat-stress environment parts: such as engine compartment components and high-temperature moving parts
- Industrial end-use parts: industrial-grade structural supports and assembly connectors
- Electrical housings and functional mechanical components: durable casings and mechanical parts for medium- to low-volume custom manufacturing
- Molds and molding tools: suitable for medium-temperature rapid molding and simple injection molds

Mechanical Properties

Property	Testing Method	Typical Values (X-Direction)	Typical Values (Y-Direction)	Typical Values (Z-Direction)
Tensile Strength (MPa)	ISO 527-2	45	46	46
Elongation at Break (%)	ISO 527-2	4.5	4.5	4
Tensile Modulus (MPa)	ISO 527-2	2800	2800	2800
Flexural Strength (MPa)	ISO 178	67	67	58
Flexural Modulus (GPa)	ISO 178	2.1	2.1	2
Impact Strength / notched A (kj/㎡)	ISO 179-2	3.3	3.4	3.2
Unnotched Charpy impact strength (kj/㎡)	ISO 179-2	32	38	/
Shore Hardness D	ISO 868-2003	83.03	82.47	82.47

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Thermal Properties

Property	Testing Method	Typical Values (X-Direction)	Typical Values (Y-Direction)	Typical Values (Z-Direction)
Heat Deflection Temperature@0.45 MPa(°C)	ISO 75-2	144	144	144
Heat Deflection Temperature@1.8 MPa(°C)	ISO 75-2	114	114	115
VICAT Softening Temperature/10N(°C)	ISO 306	170.8	170.1	170.1
VICAT Softening Temperature/50N(°C)	ISO 306	162.4	162.7	162.7

Other Properties

Property	Testing Method	Typical Values
Powder Color	/	Black
Density (g/cm^3)	ISO 1183.1-2004	1.35
Powder Bed Density (g/cm^3)	/	0.83
Bulk Density (g/cm^3)	GB/T 16913.3-1997	0.76