

POLYMER SOLUTIONS

PA 2200 Balance

Material Data Sheet

PA 2200 BALANCE

Product Description

PA 2200, based on polyamide 12, offers a wide range of applications thanks to its very balanced property profile and is the most proven material on the market.

PA 2200 is also available as the EOS Responsible Product PA 2200 CarbonReduced. It combines a heavily reduced CO₂e footprint with the well-known technical properties of PA 2200.

The advantage of the process parameter Balance, at 120µm layer thickness, lies in its ability to balance different factors at the same time, e.g., production costs, mechanical properties, surface quality and accuracy. Therefore it is suitable for parts with varying geometries, dimensions and requirements.

MAIN CHARACTERISTICS

- Balanced property profile
- Multipurpose material

TYPICAL APPLICATIONS

- Production equipment like grippers, jigs and fixtures
- Surgery cutting guides and bone models for the medical industry
- Eyewear in the consumer goods industry
- Spare parts like brackets or covers, e.g., in the automotive industry
- Functional parts for prototyping that include hinges or threads

MECHANICAL PROPERTIES	DRY / CONDITIONED	UNIT	TEST STANDARD
Tensile Modulus			ISO 527-1/-2
X Orientation	1650 / -	MPa	
Y Orientation	1650 / -	MPa	
Z Orientation	1650 / -	MPa	
Tensile Strength			ISO 527-1/-2
X Orientation	48 / -	MPa	
Y Orientation	48 / -	MPa	
Z Orientation	42 / -	MPa	
Strain at Break			ISO 527-1/-2
X Orientation	18 / -	%	
Y Orientation	18 / -	%	
Z Orientation	4 / -	%	
Flexural Modulus			ISO 178
X Orientation	1500 / -	MPa	
Charpy Impact Strength (+23°C)			ISO 179/1eU
X Orientation	53 / -	kJ/m ²	
Charpy Notched Impact Strength (+23°C)			ISO 179/1eA
X Orientation	4.8 / -	kJ/m ²	
Izod Notched Impact Strength (+23°C)			ISO 180/1A
X Orientation	4.4 / -	kJ/m ²	
Shore D Hardness			ISO 7619-1
X Orientation	75 / -	-	

THERMAL PROPERTIES	DRY / CONDITIONED	UNIT	TEST STANDARD
Melting Temperature	176	°C	ISO 11357-1/-3
Temperature of Deflection under Load 1.80 MPa			ISO 75-1/-2
X Orientation	64	°C	
Z Orientation	57	°C	
Temperature of Deflection under Load 0.45 MPa			ISO 75-1/-2
X Orientation	157	°C	
Z Orientation	145	°C	
Vicat Softening Temperature			ISO 306/B50
X Orientation	176	°C	
Flammability			-
Test Passed,	-	-	
Smoke Density			-
Test Passed	-	-	
Toxicity			-
Test Passed	-	-	
Burning Behavior, 0.50 mm nom. Thickness	HB, Test passed	class	UL 94
Thickness Tested	0.5	mm	
Burning Behavior, 1.60 mm nom. Thickness	HB, Test passed	class	UL 94
Thickness Tested	1.6	mm	
Burning Behavior, 3.2 mm nom. Thickness	HB, Test passed	class	UL 94
Thickness Tested	3.2	mm	

ELECTRICAL PROPERTIES	DRY / CONDITIONED	UNIT	TEST STANDARD
Comparative Tracking Index CTI			IEC 60112
X Orientation	≥600 / -		
Y Orientation	≥600 / -		
Z Orientation	≥600 / -		

OTHER PROPERTIES	VALUE	UNIT	TEST STANDARD
Density	0.93	g/cm ³	EOS Method
Powder Color	white	-	-
Components Color	white	-	-

HEADQUARTERS

EOS GmbH
Electro Optical Systems

Robert-Stirling-Ring 1
82152 Krailling / Munich
Germany

Tel.: +49 89 893 36-0
Email: info@eos.info
URL: www.eos.info

This powder has not been developed, tested or certified as a medical device according to Directive 93/42/EEC (MDD) or Regulation (EU) 2017/745 (MDR) and is not intended to be used as a medical device, in particular for the purposes specified in Art. 2 No. 1 MDR. Insofar as you intend to use the powder as raw material for the manufacture of pharmaceutical products or medical devices (e.g. as raw material which as a material must meet the requirements of Annex 1, Chapter II MDR), the responsibility and liability for all analyses, tests, evaluations, procedures, risk assessments, conformity assessments, approval and certification procedures as well as for all other official and regulatory measures required for this purpose shall lie solely with you both with regard to the pharmaceutical product and/or medical device manufactured by you and with regard to the properties, suitability, testing, evaluation, risk assessment, other requirements for use of the powder as raw material. In this respect, the limitations of liability pursuant to our General Terms and Conditions and the system sales or material contracts shall apply.

Part properties are provided for information purposes only and EOS makes no representation or warranty, and disclaims any liability, with respect to actual part properties achieved. Part properties are dependent on a variety of influencing factors and therefore, actual part properties achieved by the user may deviate from the information stated herein. This document does not on its own represent a sufficient basis for any part design, neither does it provide any agreement or guarantee about the specific properties of a material or part or the suitability of a material or a part for a specific application.

The achievement of certain part properties as well as the assessment of the suitability of this material for a specific purpose is the sole responsibility of the user. Any information given herein is subject to change without notice.

Status as of 29.07.2024. Subject to technical modifications. EOS is certified according to ISO 9001.

EOS®, Additive Minds®, Alumide®, AMQ®, CarbonMide®, DirectMetal®, DMLS®, EOSAME®, EOSINT®, EOSIZE®, EOSPACE®, EOSPRINT®, EOSTATE®, EOSTYLE®, FORMIGA®, LaserProFusion®, PA 2200®, PrimeCast® and PrimePart® are registered trademarks of EOS GmbH Electro Optical Systems in some countries. For more information visit www.eos.info/trademarks.