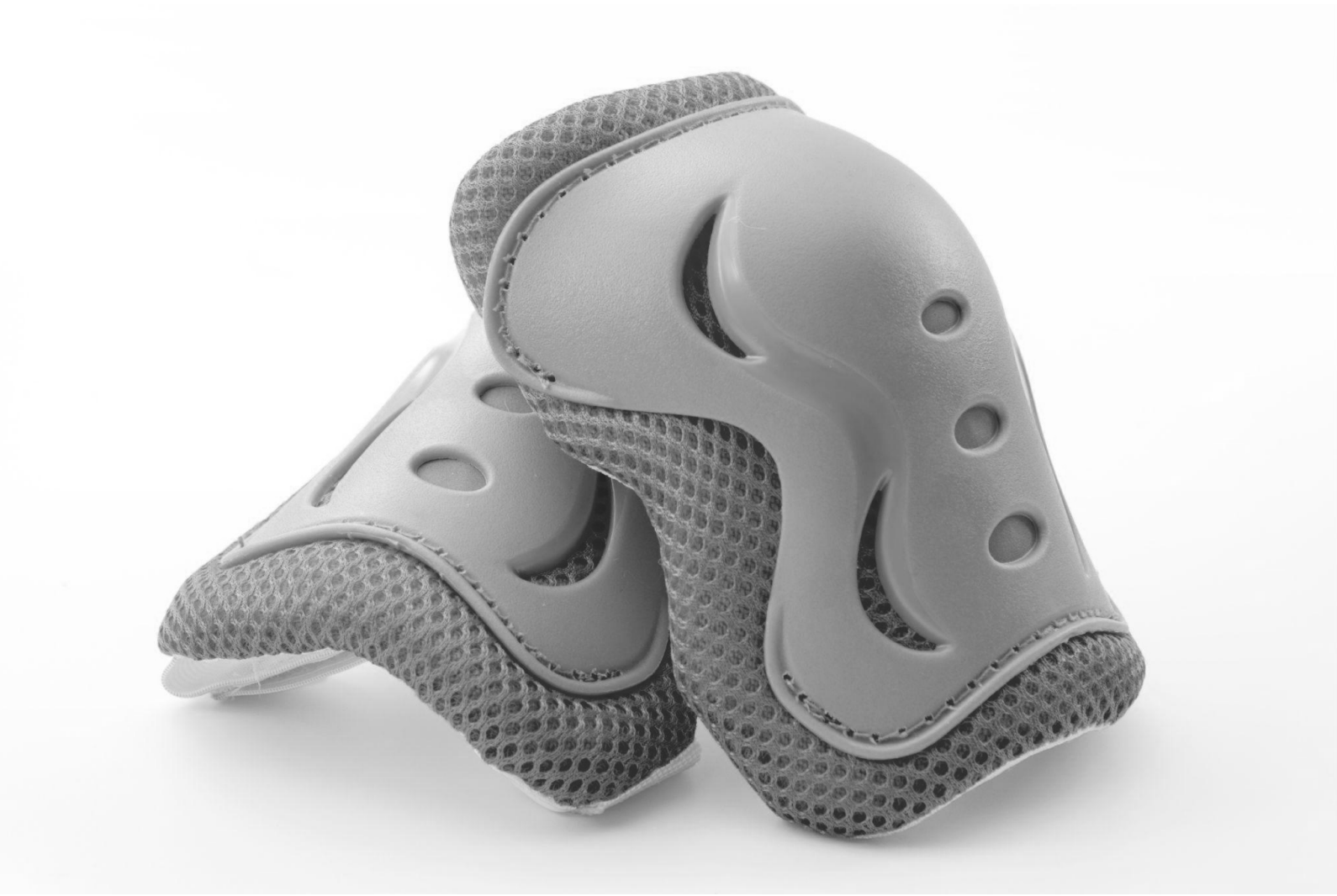
MATERIAL WIZARD TM

MAGIC SOLUTIONS REAL RESULTS

Exaflex® TPU 55D

Technical DataSheet | Supplied by Material Wizard



Exaflex® TPU 55D

Exaflex TPU 55D embodies sophistication in thermoplastic polyurethane elastomers (TPU), offering a harmonious blend of resilience and flexibility. Engineered to perfection, this material is crafted for applications demanding refined balance and superior performance. It achieves an optimal equilibrium between robust rigidity and essential flexibility with its Shore hardness of 55D, ensuring enduring resilience in dynamic environments. Exaflex TPU 55D excels in mechanical strength, providing enduring durability and steadfast resistance to wear, meeting the stringent demands of high-performance applications. Designed to thrive across diverse temperature gradients, it remains steadfast in varying environmental conditions, ensuring consistent reliability. Boasting exceptional melt flow properties, Exaflex TPU 55D facilitates seamless manufacturing processes and enhances the efficiency of waste recycling initiatives, embodying sustainability and operational efficiency. It stands as a testament to innovation and reliability, delivering unparalleled performance where precision, durability, and adaptability converge seamlessly.

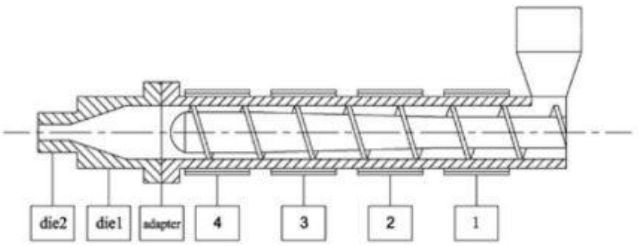
Product Type	ISO 16365-1:2014	TPU > TPU-ARES
Applications/ Recommended for	Injection Molding >	Footwear Seals and Gaskets Sporting Goods Consumer Electronics Agriculture
	Extrusion >	Automotive Components Industrial Hoses and Tubes Medical Devices Conveyor Belts Wire and Cable Sheathing Specialty Adhesives and Films
Key Features	Superior durability and wear resistance High tensile and tear strength Flexibility across a broad temperature range Excellent resistance to oils, greases, and various chemicals Hydrolysis-resistant Outstanding abrasion resistance Recyclable and environmentally friendly	

Exaflex® TPU 55D Typical Properties

Physical	Value & Unit	Test Condition	Test Method
Hardness	55	Shore D	ASTM D2240
Specific Gravity	1.21 g/cm³	At 23°C	ASTM D792
Mechanical	Value & Unit	Test Condition	Test Method
Elongation At Break	280%		ASTM D412
Tensile Strength at Break	52 MPa		ASTM D412
Tensile Stress at 100%	15 MPa		ASTM D412
Tear Strength	180 kN/m	(Die C)	ASTM D624
Abrasion	95 mm³	(Method A: non-rotate)	ASTM D5963
Glass-transition Temperature	-26°C		DSC

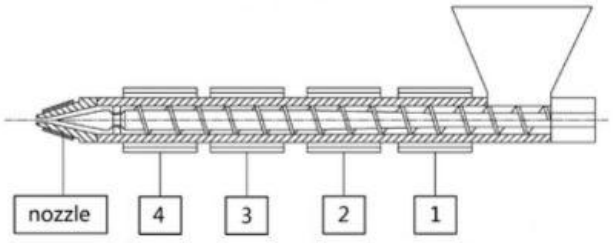
Processing Recommendations

Processing Conditions > Injection Molding:



	Zone1	Zone2	Zone3	Zone4	Adaptor	Die1	Die2
°C	180	185	190	195	200	205	210

Processing Conditions > Extrusion:



	Zone1	Zone2	Zone3	Zone4	nozzle
°C	185	190	195	200	195

Processing Recommendations > Drying:

Our materials are supplied pre-dried in moisture-guarded bags. However, dry materials will rapidly absorb moisture when exposed to the atmosphere. For recyclable products, it must be dried before processing. Drying the material at 90-100 ºC for 3-4 h in a circulating air or dehumidified air dryer is recommended. The moisture content must be lower than 0.02% before and during processing.

Disclaimer

Standard Disclaimer

The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations, are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety and environmental standpoint. Such testing has not necessarily been done by us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale. All information and technical assistance is given without warranty or guarantee and are subject to change without notice. It is expressly understood and agreed that you assume and hereby release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with patents covering any material or its use. No license is implied or in fact granted under the claims of any patent. Typical Properties data is provided as general information only. Property values are approximate and are not part of the product specifications.

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