



MATERIAL PROPERTIES CHECKLIST

Use the following list to identify all the properties a plastic should have to meet your part's application needs.

THERMAL	Maximum and minimum operating temperatures and duration sustained, impact under given temperature, thermal expansion, and contraction needs.	
CHEMICAL	Exposure to chemicals, moisture, humidity, steam, submersion, paint, glue, solvents, vapors, plasticizers, and petroleum-based chemicals.	
MOLDABILITY	Suitability of plastic's melt and flow characteristics to your part's mold dimensions.	
MECHANICAL	Impact, tensile and flexural strength, rigidity, load bearing limit, wear stress, dimensional stability, and projected part life.	
RADIATION	Resistance to and dissipation factor when exposed to electromagnetic waves.	
ELECTRICAL	Is it an insulator, conductive, anti-static or static dissipative?	
BIOCOMPATIBILITY	Will the material cause adverse biological responses when in direct or indirect contact with tissue?	
AESTHETICS	Color, opacity, translucency, texture, and surface finish.	
REGULATORY REQUIREMENTS	What certifications, federal laws or quality standards do the material need to meet? This is especially important for medical equipment and automotive parts.	

Watch our webinar—Injection Molding Material Selection: Plastic Edition—for tips on choosing plastics that are ideally suited for your project.