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Polyether Ether Ketone (PEEK); 2.6.7 Polytetrafluoroethylene (PTFE); 2.6.8 Polyacetal (POM); 2.6.9 Polyvinylidene Fluoride (PVDF); 2.6.10 Polyphenylene Sulfide (PPS); 2.7 Advantages; 2.8 Fundamentals; References; 3. Plastics Additives; 3.1 Antioxidants; 3.2 Anti-block Agents; 3.3 Antistatic Agent; 3.4 Clarifying Agents; 3.5 Slip Additives; 3.6 Processing Aids; 3.7 Antifogging Agents 3.8 Antiblocking Agents 3.9 Heat Stabilizers; 3.10 Lubricants; 3.11 Plasticizers; 3.12 Coupling Agents or Surface Modifiers; 3.13 Release Agents; 3.14 Flame Retardants; 3.15 Pigments; 3.16 Light Stabilizers; 3.17 Impact Modifiers; 3.18 Blowing Agents; 3.19 Nucleating Agents; 3.20 Biocides; 3.21 Fillers; 3.22 Fundamentals; References; 4. Plastics Processing; 4.1 Focus on Plastics Processing; 4.2 Injection Molding; 4.2.1 Injection Molding - Machine; 4.2.1.1 Ram Injection Molding Machine; 4.2.1.2 Screw Injection Molding Machine; 4.2.2 Injection Unit; 4.2.2.1 Barrel; 4.2.2.2 Screw 4.2.2.3 Clamping Unit 4.2.2.4 Hydraulic Unit; 4.2.3 Mold; 4.2.3.1 Gate; 4.2.3.2 Runner; 4.2.3.3 Sprue; 4.2.3.4 Cavity; 4.2.3.5 Nozzle; 4.2.3.6 Vent; 4.2.3.7 Ejection System; 4.2.4 Injection Molding and Parameters; 4.2.4.1 Temperature; 4.2.4.2 Pressure; 4.2.4.3 Time; 4.2.4.4 Cooling; 4.2.4.5 Velocity; 4.2.4.6 Part Design; 4.2.5 Injection Molding - Processing; 4.2.6 Process Variables; 4.2.6.1 Cushion; 4.2.6.2 Shot Size; 4.2.7 Advantages; 4.2.8 Shortcomings; 4.3 Extrusion; 4.3.1 Extrusion - Basic Requirements; 4.3.2 Extruder; 4.3.2.1 Single Screw Extruder; 4.3.2.2 Twin Screw Extruder 4.3.2.3 Feeder 4.3.2.4 Screw; 4.3.2.5 Die; 4.3.3 Polymer Melt; 4.3.4 Extrudate Swell; 4.3.5 Extrusion and Process Parameters; 4.3.6 Extrusion - Processing; 4.3.7 Advantages; 4.3.8 Shortcomings; 4.4 Blow Molding; 4.4.1 Blow Molding and Process Parameters; 4.4.2 Extrusion Blow Molding; 4.4.3 Injection Stretch Blow Molding; 4.4.4 Advantages; 4.4.5 Shortcomings; 4.5 Thermoforming; 4.5.1 Thermoforming and Parameters; 4.5.2 Processing; 4.5.3 Mold; 4.5.4 Advantages; 4.5.5 Shortcomings; 4.6 Rotational Molding; 4.6.1 Rotational Molding and Parameters; 4.6.2 Mold; 4.6.3 Processing; 4.6.4 Pigmentation 4.6.5 Advantages

Sommario/riassunto

The Basics of Troubleshooting in Plastics Processing is a condensed practical guide that gives the reader a broad introduction to properties of thermoplastics plastics, additives, the major processes (extrusion, injection molding, rotational molding, blow molding, and thermoforming), as well as troubleshooting. The main goal is to provide the plastics processor with an improved understanding of the basics by explaining the science behind the technology. Machine details are minimized as the emphasis is on processing problems and the defects in an effort to focus on basic root causes to
