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	Autore	Lübtow, Ulrich von
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Reactivity: An Extreme Case; 1.2.4 Preparation of Fluorine; 1.3 Polyvinyl Fluoride; 1.3.1 History; 1.3.2 Development of Polyvinyl Fluoride; References; 2 Production and Market Statistics; 2.1 Applications of PVF; 2.1.1 Photovoltaics; 2.1.2 Transportation; 2.1.3 Release Film; 2.1.4 Construction; 2.1.5 Other Applications; 2.2 Capacity Expansion; 2.3 Film Types; References

3 Preparation and Properties of Vinyl Fluoride 3.1 Introduction; 3.2 Synthesis of Vinyl Fluoride; 3.3 Commercial Manufacturing of Vinyl Fluoride; 3.4 Properties of Vinyl Fluoride; 3.5 Applications of Vinyl Fluoride; References; 4 Polymerization and Finishing Polyvinyl Fluoride; 4.1 Background; 4.2 Suspension Polymerization; 4.3 Bulk Polymerization; 4.4 Emulsion Polymerization; 4.5 Radiation-Induced Polymerization; 4.6 Graft Polymerization; 4.7 Vinyl Fluoride Polymerization Development; 4.8 Continuous Polymerization; 4.9 Effect of Polymerization Variables

4.9.1 Ziegler-Natta and Other Catalysts 4.9.2 Reactivity Ratio; References; Further Reading; 5 Manufacturing of Oriented Polyvinyl Fluoride Film; 5.1 Introduction; 5.2 PVF Dispersion in Latent Solvent; 5.3 Film Extrusion; 5.3.1 Extruder; 5.3.2 Casting Die; 5.3.3 Quench; 5.3.4 Biaxial Orientation; 5.4 Extrusion and Orientation of Polyvinyl Fluoride Films; 5.5 Commercial Processes; References; 6 Manufacturing of Unoriented Polyvinyl Fluoride Films and Coatings; 6.1 Cast Film Technology; 6.2 Unoriented PVF Films; 6.3 Preparation of Unoriented PVF Films; 6.4 Manufacturing Process; References

7 Properties of Commercial Polyvinyl Fluoride Films 7.1 Introduction; 7.2 Polymer Properties; 7.2.1 Conformations and Transitions of Polyvinyl Fluoride; 7.3 Characteristics of Commercial PVF Films; 7.4 Chemical Properties; 7.5 Optical Properties; 7.6 Thermal Properties; 7.7 Electrical Properties; 7.7.1 Piezoelectric and Pyroelectric Properties; 7.8 Weathering Performance; 7.9 Description of Available Product and Properties of Unoriented PVF Films; 7.9.1 Physical/Thermal Properties; 7.9.2 Chemical Properties; 7.9.3 Electrical Properties; 7.9.4 Optical and Spectral Properties

7.9.5 Weather Resistance 7.9.6 Formability; 7.9.7 Surface Aesthetics; 7.9.8 Adhesion; 7.9.9 Ease of Cleaning; 7.9.10 Abrasion Resistance; 7.10 Effect of Radiation; 7.11 NMR Spectrum of Polyvinyl Fluoride; References; 8 Surface Treatment of Polyvinyl Fluoride Films and Coatings; 8.1 Introduction; 8.2 Chemical Treatment Method; 8.3 Corona Treatment; 8.4 Plasma Treatment; 8.5 Atmospheric Plasma Treatment; 8.6 Flame Treatment; References; 9 Adhesive Coating and Lamination of Polyvinyl Fluoride Films; 9.1 Introduction; 9.2 Priming the PVF Film Surface; 9.3 Polyvinyl Fluoride Adhesives

9.4 Liquid Adhesive Characteristics

Sommario/riassunto

The commercial PVF film Tedlar® was first trademarked by DuPont 50 years ago. Since that time it has established itself as a polymer with excellent resistance to sunlight degradation (UV resistance), thermal stability, chemical attack, water absorption, and solvents. These properties, together with a high solar energy transmittance rate, have led to it becoming established worldwide as the number one choice for the backsheets of photovoltaic solar panels, and a fire-retardant coating used in aircraft. This book is the first and only handbook that describes polyvinyl fluori
