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1.8.5. Pure products and formulated products: plasticization; 1.8.6. Time-temperature equivalence; 1.9. Miscibility of polymers: concept of alloy; 1.9.1. Notion of solubility parameter; 1.9.2. Estimation of the solubility
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2.3. Physico-chemical composition of bitumens
2.4. Various forms of bitumen; 2.4.1. Paving bitumens: characterization and classification; 2.4.2. Fluid binders; 2.4.3. Bitumen emulsions; 2.4.3.1. Formation of an emulsion; 2.4.3.2. Failure of emulsions; 2.4.3.3. Characterization of emulsions: applications; 2.5. Usage properties of paving bitumen; 2.6. Adhesiveness; 2.7. Rheological properties; 2.7.1. Viscosity; 2.7.2. Viscoelasticity; 2.7.3. Complex modulus; 2.7.4. Towards a rheological classification; 2.7.5. The SHRP program - Test methods and specifications of road binders
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2.8. Aging of bitumen; 2.9. Limits in the use of bitumen: quest for an ideal binder; 2.10. Modified bitumens, bitumens with additives and special bitumens; 2.10.1. Physico-chemical characterization of polymer modified bitumens; 2.10.2. Practical applications; 2.10.3. Bitumens with additives; 2.10.4. Special paving bitumens; 2.11. Regeneration binders; 2.12. Other uses of bitumen in civil engineering; 2.13. General conclusion; Chapter 3. Organic Binders II. Materials for the Conservation of Heritage and Safety; 3.1. Concrete repair and protection products
3.1.1. Products and systems for the protection and repair of concrete structures: normative definitions

Sommario/riassunto

This book provides an inventory of organic materials and products, the major components of all civil engineering projects, in terms of their scientific and technical background, including the regulations that cover their use and their predicted useful life. Such materials include: bitumen on the roads; geotextiles for retaining walls; membranes for bridges; tunnel and reservoir waterproofing; paint binders to protect metallic and concrete structures or to create road markings; injection resins; gluing products; concrete admixtures; and composite materials. The presentation is based on a ph
