1. Record Nr. UNINA9910457325203321

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Titolo	Materials for automobile bodies [[electronic resource] /] / Geoff Davies
Pubbl/distr/stampa	Amsterdam ; ; Oxford, : Butterworth-Heinemann, 2003
ISBN	1-280-96645-9 9786610966455 0-08-047339-3
Descrizione fisica	1 online resource (290 p.)
Disciplina	629.232
Soggetti	Automobiles - Bodies Automobiles - Materials Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	front cover; copyright; table of contents; front matter; Preface; Acknowledgements; About the author; Disclaimer; body; 1. Introduction; 1.1 Overview of content; 1.2 Materials overview; 1.3 General format of presentation; 1.4 Introduction to body architecture and terminology; 2. Design and material utilization; 2.1 Introduction; 2.2 Historical perspective and evolving materials technology; 2.3 Finite element analysis; 2.4 One manufacturer's approach to current design; 2.5 Panel dent resistance and stiffness testing; 2.6 Fatigue; 2.7 Alternative body architecture 2.8 Integration of materials into designs2.9 Engineering requirements for plastic and composite components; 2.10 Cost analysis; 2.11 Learning points from Chapter 2; 3. Materials for consideration and use in automotive body structures; 3.1 Introduction; 3.2 Material candidates and selection criteria; 3.4 Aluminium; 3.5 Magnesium; 3.6 Polymers and composites; 3.7 Learning points from Chapter 3; 4. The role of demonstrationI concept and competition cars; 4.1 Introduction; 4.2 The BL Energy Conservation Vehicle F ECV 8M and aluminium structured vehicle technology F ASVTM; 4.3 ULSAB and ULSAB 40 4.4 Concept cars4.5 Competition cars; 4.6 Key learning points from Chapter 9; 5. Homponent manufacture; 5.1 Steel formability; 5.2

Aluminium formability; 5.3 Manufacture of components in magnesium; 5.4 Production of polymer parts; 5.5 Learning points from Chapter 5; 6. Component assembly materials joining technology; 6.1 Introduction; 6.2 Welding; 6.3 Adhesive bonding; 6.4 Mechanical fastening; 6.5 Learning points from Chapter 6; 7. Corrosion and protection of the automotive structure; 7.1 Introduction; 7.2 Relevant corrosion processes; 7.3 Effective design principles
7.4 Materials used for protection of the body structure7.5 Empirical vehicle and laboratory comparisons; 7.6 An introduction to electrochemical methods; 7.7 Learning points from Chapter N; 8. Environmental considerations; 8.1 Introduction; 8.2 Effect of body mass and emissions control; 8.3 Life cycle analysis (LCA); 8.4 Recycling and ELV considerations; 8.5 Hygiene; 8.6 BIW design for safety; 8.7 Learning points from Chapter 8; 9. Future trends in automotive body materials; 9.1 Introduction; 9.2 Factors influencing material change in the future - trends and requirements
9.3 Combined effect of above factors on materials utilization within 'expected' and 'accelerated' timescales9.4 Learning points from Chapter 9; index

Sommario/riassunto

The selection of automobile body materials is fundamental to the choice of fabrication method, and the characteristics and performance of the final vehicle or component. The factors behind these choices comprise some of the key technological and design issues facing automotive engineers today. Materials for Automobile Bodies presents detailed up-to-date information on material technologies for the automobile industry, embracing steels (including high-strength steels) aluminium, plastics, magnesium, hydro-forming and composite body panels. Coverage also includes: materials processing;