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Nota di contenuto	Creation of High-Strength Structures and Joints by Setting up Local Material Properties; Preface; Table of Contents; Research for Creation of High-Strength Structures and Joints by Setting up Local Material Properties ; Local Strain Hardening of Sheet and Solid Forming Components during Formation of Martensite in Metastable Austenitic Steels ; Use of Bake Hardening Effects to Change Local Properties of Constructional Elements; Creation of Tailored High-Strength, Hybrid Sandwich Structures; Developments for the Production of Local Foamed Hollow Sections Local Effects of Welding Seams with Laser-Based Joining Concepts for High-Strength Load-Transferring Structure Modules Selective Strain Hardening of Structure Components by Action Media Based Cold Massive Forming ; Development of Combined Manufacturing Technologies for High-Strength Structure Components ; Material Aligned Process Control for the Welding Technology of Locally Hardened Materials ; Three-Dimensional Optical Measurement with Locally Adapted Projection; Fatigue Life Calculation Concepts for

## Structures with Inhomogenous Strength Properties

Low Heat Joining - Manufacture and Fatigue of Soldered Locally Strengthened Structures Setting of Gradient Material Properties and Quality Control of High Tension 3D-Weld Joints ; Design Strategies for the Development of High Strength Coupling Elements from Requirement Optimized Composite Materials ; Keywords Index; Authors Index

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### Sommario/riassunto

The demands now being made on metallic structures are increasingly complex, since the strains and application loading-profiles which occur are locally limited and inhomogeneous. Therefore, high-strength structures having optimised material properties have to be developed. Based upon the research goals and target problems of Collaborative Research Centre 675, mass laws and process models are investigated which clearly and predictably relate materials and processing parameters to characteristic property values, shapes and dimensions. In this work, development and manufacturing processes are cons

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