



1 *SiC-particle reinforced aluminum matrix composite material (SiC-volume content: 70%)*

2 *Carbide formation for interface design in copper-diamond composites (SEM micrograph of a diamond after the extraction from a CuCr-diamond MMC)*

3 *Carbon fiber reinforced copper matrix composite*

METAL-MATRIX-COMPOSITES: TAILORED MATERIALS

Metal-Matrix-Composites (MMC) offer unique combinations of properties. This group of materials becomes interesting for structural and functional applications where conventional materials no longer meet the requirements.

Advantages

- Adjustable and combinable physical properties (e.g. thermal expansion and thermal conductivity)
- Improved wear resistance
- Increased rigidity
- Improved specific mechanical properties

Powder metallurgical manufacturing

These manufacturing methods have a high application potential due to the technical feasibility of a large variety of combinations of material properties. In addition to a high flexibility in the selection of the matrix alloy and the reinforcements, there are only minor limits set concerning size and geometry of the particles or short fibers.

Services

- Material development for concrete component requirements
- Technology development
- Consultation and research concerning the application of MMCs

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