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Sommario/riassunto	We introduce an algorithm that allows for a fast generation of SMC composite microstructures. An exact closure approximation and a quasi-random orientation sampling ensure high fidelity. Furthermore, we present a modular framework for anisotropic damage evolution. Our concept of extraction tensors and damage-hardening functions enables the description of complex damage-degradation. In addition, we propose a holistic multiscale approach for constructing anisotropic failure criteria.