Title (en)

Abrasive articles

Title (de)

Schleifgegenstände

Title (fr)

Articles abrasif

Publication

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Application

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Priority

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Abstract (en)

This invention pertains to an abrasive article comprising precisely shaped particles. The abrasive article may be a coated abrasive article, a bonded abrasive article or a nonwoven abrasive article. The precisely shaped particles may further comprise abrasive grits, fillers, grinding aids and lubricants. The precisely shaped particles can be made according to the following method: (a) providing a production tool having a three-dimensional body which has at least one continuous surface, said surface containing at least one opening formed in said continuous surface, said at least one opening providing access to a cavity in said three-dimensional body; (b) providing a dispensing means capable of introducing a binder precursor comprising a thermosetting resin into said at least one cavity through said at least one opening; (c) providing a means, within a curing zone, for at least partially curing said binder precursor; (d) introducing said binder precursor into at least a portion of said at least one cavity; (e) continuously moving said at least one cavity through said curing zone to at least partially cure said binder precursor to provide a solidified, handleable binder having a shape corresponding to that portion of the cavity into which the binder precursor has been introduced; (f) removing said binder from said at least one cavity; and (g) converting said binder to form a precisely shaped particle. Steps (f) and (g) may be conducted simultaneously. The particles can be bonded together to form a shaped mass, e.g. a wheel; alternatively, the particles can be bonded to a backing to form a coated abrasive article; or the particles can be bonded into a fibrous, nonwoven substrate to form a nonwoven abrasive article.

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