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Study on polyurethane media for mass finishing process: dynamic characteristics and performance

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Highlights:

- A new type of microporous polyurethane media is prepared, using polyurethane elastomer as its base material and filling with silicon carbide or aluminium oxide, abrasive of particle size of 240[#]-W40.
- Based on the dynamic analysis and experiments, the better performance parameters of polyurethane media are determined. When the mass ratio of polyurethane raw rubber and abrasive phase is 1:4, and the hardness is Shore A90, the finishing effect and material removal rate are the best.
- The material removal model is established. The relationship between density of polyurethane media and the material removal in this process is confirmed, which is helpful for media selection.

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