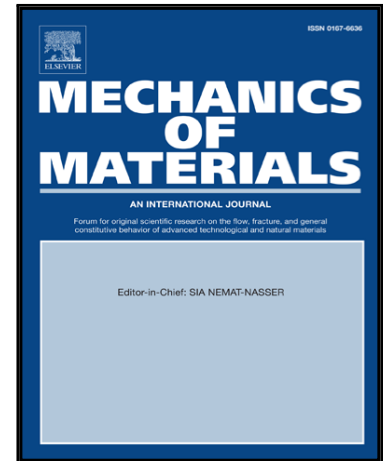


## Accepted Manuscript

Numerical modeling of the effective ductile damage of macroporous alumina

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PII: S0167-6636(16)30359-3  
DOI: [10.1016/j.mechmat.2017.08.002](https://doi.org/10.1016/j.mechmat.2017.08.002)  
Reference: MECMAT 2780



To appear in: *Mechanics of Materials*

Received date: 6 October 2016  
Revised date: 5 May 2017  
Accepted date: 4 August 2017

Please cite this article as: Vincent LE CORRE , Nadège BRUSSELLE-DUPEND ,  
Maxime MOREAUD , Numerical modeling of the effective ductile damage of macroporous alumina, *Mechanics of Materials* (2017), doi: [10.1016/j.mechmat.2017.08.002](https://doi.org/10.1016/j.mechmat.2017.08.002)

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**Highlights :**

- The ductile damage mechanisms of a macroporous alumina are investigated by Finite Element Method on a wide range of stress triaxiality ratio
- The microstructure geometry including non-convex pores is closely transcribed from Scanning Electron Microscopy images to mesh
- The calculated yield surface of the porous Drucker-Prager matrix under negative mean stress presents a closed-form which is consistent with the shape identified experimentally
- The overall yield surface is qualitatively the same closed-form as those obtained in literature for isotropic porous media containing spherical voids

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