White Rose Research Online

eprints@whiterose.ac.uk
https://eprints.whiterose.ac.uk
Universities of Leeds, Sheffield and York

Deposited via The University of Leeds.

White Rose Research Online URL for this paper:
https://eprints.whiterose.ac.uk/id/eprint/243329/

Version: Supplemental Material

Article:
Takemura, T. and Healy, D. (2026) Anisotropic stress-induced permeability change in cracked rock during the crack closure stage: A tensorial approach incorporating tortuosity and bottlenecks. Tectonophysics, 927. 231127. ISSN: 0040-1951

https://doi.org/10.1016/j.tecto.2026.231127

This is an author produced version of an article published in Tectonophysics, made available via the University of Leeds Research Outputs Policy under the terms of the Creative Commons Attribution License (CC-BY), which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.

Reuse
Items deposited in White Rose Research Online are protected by copyright, with all rights reserved unless indicated otherwise. They may be downloaded and/or printed for private study, or other acts as permitted by national copyright laws. The publisher or other rights holders may allow further reproduction and re-use of the full text version. This is indicated by the licence information on the White Rose Research Online record for the item.

Takedown
If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.

UNIVERSITY OF LEEDS
University of Sheffield
UNIVERSITY of York

Table 2

Dimensionless crack density	Ratio (Iso-triaxial/Iso-hydro)			Ratio (Iso-triaxial/Iso-hydro)		
F_0	$\frac{k_{11}^{\lambda(F_0)}\|_{Triaxial}}{k_{11}^{\lambda(F_0)}\|_{Hydro}}$	$\frac{k_{22}^{\lambda(F_0)}\|_{Triaxial}}{k_{22}^{\lambda(F_0)}\|_{Hydro}}$	$\frac{k_{33}^{\lambda(F_0)}\|_{Triaxial}}{k_{33}^{\lambda(F_0)}\|_{Hydro}}$	$\frac{k_{11}^{\Lambda_{11}}\|_{Triaxial}}{k_{11}^{\Lambda_{11}}\|_{Hydro}}$	$\frac{k_{22}^{\Lambda_{22}}\|_{Triaxial}}{k_{22}^{\Lambda_{22}}\|_{Hydro}}$	$\frac{k_{33}^{\Lambda_{33}}\|_{Triaxial}}{k_{33}^{\Lambda_{33}}\|_{Hydros}}$
1.88	0.50	0.50	1.00	0.14	0.14	0.26
2.83	0.50	0.50	1.00	0.08	0.08	0.41
3.77	0.50	0.50	1.00	0.07	0.08	0.77
4.71	0.50	0.50	1.00	0.12	0.12	0.94
5.65	0.50	0.50	1.00	0.16	0.18	0.96
6.60	0.50	0.50	1.00	0.19	0.20	0.99
7.54	0.50	0.50	1.00	0.23	0.23	1.00