

**Table 3.***iSALE target input parameters for the Boeing centrifuge and the EPIC simulations.*

<b>Experiment Description</b>	<b>Boeing centrifuge</b>		<b>EPIC</b>	
	<b>Quartz sand</b>	<b>Chromite sand</b>	<b>Beach sand</b>	<b>Iron grit</b>
Equation of state	ANEOS quartzite	ANEOS iron	ANEOS quartzite	ANEOS iron
Strength model	Drucker-Prager	Drucker-Prager	Drucker-Prager	Drucker-Prager
Poisson ratio, $\nu$	0.30	0.30	0.30	0.30
Strength parameters				
Damage strength at zero pressure (kPa), $Y_0$	0	0	0	0
Strength at infinite pressure (GPa), $Y_{inf}$	1.0	10	0.1	10
Internal friction coefficient, $f$	0.63	1.00	0.50	0.65
Porosity parameters ( $\varepsilon$ - $\alpha$ )				
Initial porosity, $\phi$	44%	20%	40%	44%
Initial distension, $\alpha_0$	1.77	1.25	1.68	1.80
Distension at transition to power-law, $\alpha_x$	1.29 <sup>b</sup>	1.15 <sup>c</sup>	1.29 <sup>b</sup>	1.15 <sup>c</sup>
Elastic volumetric strain threshold, $\varepsilon_{e0}$	-1.5x10 <sup>-2</sup>	-1.0x10 <sup>-4</sup>	-1.5x10 <sup>-2</sup>	-1.0x10 <sup>-4</sup>
Exponential compaction rate, $\kappa$	0.99	0.98	0.99	0.95

<sup>a</sup>Melosh, 2007; <sup>b</sup>Wunnemann et al., 2016; <sup>c</sup>Collins et al., 2011.