Supplement of

Looking beyond kinematics: 3D thermo-mechanical modelling reveals the dynamics of transform margins

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Figure S1

Weak Lower Crust

$\alpha = 15^\circ$

Extension
Transpression
Compression
Strike-slip

$\varepsilon_{II} (s^{-1})$

$10^{-19}$ $10^{-18}$ $10^{-17}$ $10^{-16}$ $10^{-15}$

Plastic (brittle) strain

$\beta$ factor

1 1.5 2 2.5 3
Figure S2

Weak Lower Crust
\( \alpha = 30^\circ \)

Mantle exhumation age
(Myr)

\( \beta \) factor

Plastic (brittle) strain
\( \varepsilon^p (s^{-1}) \)

Extension

Transpression

Compression

Strike-slip

\( \beta = 1.5 \)

\( \beta = 2 \)

\( \beta = 2.5 \)

\( \beta = 3 \)
Figure S3

Strong Lower Crust

$\alpha = 30^\circ$

Mantle exhumation age (Myr)

$\beta$ factor

Plastic (brittle) strain

$\dot{\varepsilon}^{\text{II}}$ ($\text{s}^{-1}$)

Extension

Transpression

Compression

Strike-slip

$10^{-19}$

$10^{-18}$

$10^{-17}$

$10^{-16}$

$10^{-15}$
Figure S4

Weak Lower Crust

\( \alpha = 45^\circ \)

Mantle exhumation age

(\text{Myr})

\( \beta \) factor

1 2 3 4 5

1 1.5 2 2.5 3

\( \varepsilon^\text{II} \) (s\(^{-1}\))
Figure S6

Weak Lower Crust

$\alpha = 75^\circ$

Mantle exhumation age (Myr)

Plastic (brittle) strain $\varepsilon^H (s^{-1})$

$\beta$ factor

Extension
Transpression
Compression
Strike-slip

$10^{-19} \quad 10^{-18} \quad 10^{-17} \quad 10^{-16} \quad 10^{-15}$
