

# V: Reader's Guide and Contract Layer

(thermodynamic  $\Delta S \geq 0$ , kinematic  $\mathbf{U}^{(4)} = 0$ )

## Verification Tensor (V)

October 13, 2025

### Abstract

This note declares the shared symbols and three contracts used across the build. All statement handles are made title-safe via `\ensuremath`, so they can be used directly in text, headings, and captions without extra math delimiters.

## Contracts

- G1 (thermodynamic closure):  $\Delta S \geq 0$ .
- G2 (kinematic closure, strong):  $\mathbf{U}^{(4)} = 0$ .
- G2 (weak/reciprocity):  $\mathbf{B}(\mathbf{U}, \varphi) = 0 \forall \varphi \in \mathcal{V}$ ; summarized as Discrete–continuum reciprocity via  $\mathbf{B}$ .

## Shared symbols

$\mathbf{U}$ ,  $\mathbf{V}$ ,  $\varphi \in \mathcal{V}$ ,  $\nabla$ ,  $\mathcal{C}$ ,  $\mathbf{B}(\cdot, \cdot)$ ,  $S$ ,  $\mathbf{U}^{(4)}$ .

## Usage notes

The statement handles already include math mode. Prefer `(\GOneStatement)` not `\(\GOneStatement\)`. Avoid `\left...\right` unless you include both sides.