The dot product of a tensor with a vector is:

$$\underline{\underline{\mathbf{T}}} \bullet \underline{\mathbf{v}} = \begin{array}{l} \underline{\delta}_{\mathbf{1}}(T_{11}v_1 + T_{12}v_2 + T_{13}v_3) \quad + \\ \underline{\delta}_{\mathbf{2}}(T_{21}v_1 + T_{22}v_2 + T_{23}v_3) \quad + \\ \underline{\delta}_{\mathbf{3}}(T_{31}v_1 + T_{32}v_2 + T_{33}v_3) \end{array} = \sum_{i=1}^{3} \underline{\delta}_{\mathbf{i}} \left(\sum_{j=1}^{3} T_{ij} v_j \right) .$$