TABLE 9

Form of the (s_{ij}) *and* (c_{ij}) *matrices*

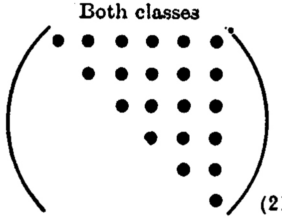
KEY TO NOTATION

	·	zero component
	●	non-zero component
	●—●	equal components
	●—○	components numerically equal, but opposite in sign
For s	◎	twice the numerical equal of the heavy dot component to which it is joined
For c	◎	the numerical equal of the heavy dot component to which it is joined
For s	×	$2(s_{11}-s_{12})$
For c	×	$\frac{1}{2}(c_{11}-c_{12})$

All the matrices are symmetrical about the leading diagonal.

TRICLINIC

Both classes

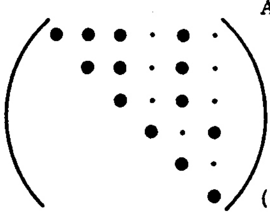


(21)

MONOCLINIC

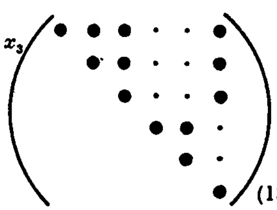
All classes

Diad $\parallel x_2$ (standard orientation)



(13)

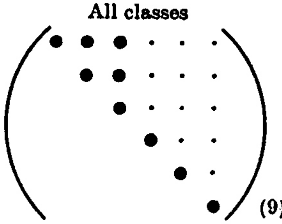
Diad $\parallel x_3$



(13)

ORTHORHOMBIC

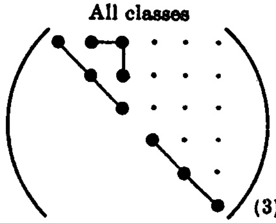
All classes



(9)

CUBIC

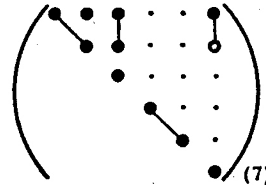
All classes



(3)

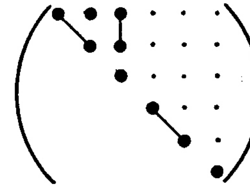
TETRAGONAL

Classes 4, $\bar{4}$, $4/m$



(7)

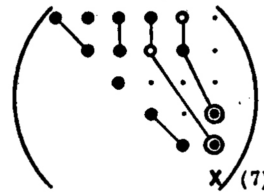
Classes $4mm$, $\bar{4}2m$,† 422, $4/mmm$



(6)

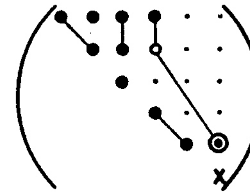
TRIGONAL

Classes 3, $\bar{3}$



(7)

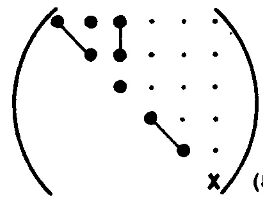
Classes 32, $\bar{3}m$, $3m$



(6)

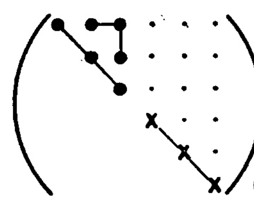
HEXAGONAL

All classes



(5)

ISOTROPIC



(2)

The form of the matrix given in the table for a completely isotropic material is obtained from the cubic matrix by requiring that the components should be unaltered by rotations of 45° about the reference axes. It may be verified that the form so given is unaltered by any rotation of axes. For second-rank tensor properties cubic crystals were

† The same matrix holds for both possible orientations of class $\bar{4}2m$ ($2 \parallel x_1$ and $m \perp x_1$) since the addition of a centre of symmetry makes the two orientations indistinguishable