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martensitic transition

A diffusionless transition (first studied in the steel alloy, Martensite), at constant composition, generated by coordinated atomic, ionic or molecular displacements over distances smaller than interatomic distances in the parent phase. The cooperative rearrangements of the crystal structure generally take place progressively by the movement of a two-dimensional interface through the solid. Examples: The face-centred-cubic to body-centred-tetragonal transition of iron containing some carbon; the transition of tetragonal ZrO_2 to monoclinic ZrO_2 .

Source:
PAC, 1994, *66*, 577 *(Definitions of terms relating to phase transitions of the solid state (IUPAC Recommendations 1994))* on page 585

