

# **Deformation Characteristics of Super-Microstructures of Coals Under the Condition of High Temperature and Confining Pressure**

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According to the analysis of stress-strain curves and deformation characteristics of super-microstructures of different rank coals that deformed under different temperature and confining pressure, the paper inquired deep into the deformational behaviors of coals of different degrees of coalification and their influence factors. It is expounded that the action of high temperature and confining pressure and differential stress is an important factor that transforms structures of coals from disordering into ordering and enhances the order domain and orientation of megamolecule structures. Temperature and pressure have different actions to different rank coals under different experimental conditions. Although increase of confining pressure may enhance intensity of coals, action of temperature is more important in stage of medium rank coals. Temperature takes a leading effect in stage of less strain of higher rank coals, but action of confining pressure gradually rises into a leading effect in stage of larger strain. The important action of stress can not be ignored in the whole deformation process of coals.