

**Improvement of Fatigue Strength of Axle by Changing Shape of Fillet Part  
between Wheelseat and Axle Body**

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This research was carried out to propose the suitable shape of the fillet part between the wheelseat and the axle body aiming at improvement of the fatigue strength of the axle by evaluating quantitatively the relation between the shape of the fillet part and fatigue strength of the axle. The diameter ratio between the wheelseat and the axle body and the radius of the fillet part were chosen as the parameters, then fatigue tests using sub scale axles and FEM analysis were performed. After proposal of the suitable shape of the fillet part, fatigue tests using full scale axles were carried out to verify appropriateness of the proposal.