

Improvement of Anti-fatigue Property of Contact Wire by Modifying Cross-section Shape

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Bending strain, which occurs in contact wire with every pantograph passage, may cause fatigue of contact wire. We designed cross-section shape of contact wire which reduces this bending strain. We confirmed that this cross-section shape does not make worse galloping property (property of vertical vibration raised by a cross wind) through wind tunnel test. We also confirmed that this cross-section shape can be applied to manufacturing contact wire by high strength copper alloy through trial manufacture. Compatibility with fittings (hanger ear, double ear, termination fitting, etc.) was tested with this trial piece and no problem was found. Meaningful decrease in bending strain was observed in pantograph running test.