

METRO-NORTH COMMUTER RAILROAD

POWER DEPARTMENT

SPECIFICATION NO. PD-807

THIRD RAIL POWER BONDS

PART 1 - SCOPE

=====

1.1 This Specification covers the manufacture and delivery of third rail power bonds.

PART 2 - GENERAL

=====

2.1 Third rail power bonds will be used to make electrical current carrying connections between the ends of adjacent lengths of third rail.

2.2 Dimensions and configuration of the bonds shall be as indicated on Standard Plan STD-401.

2.3 Each end of each bond will be attached to the third rail by exothermic welding.

PART 3 - MATERIALS AND WORKMANSHIP

=====

3.1 The bonds shall consist of laminations of pure electrolytic copper 0.020 inch thick and 1.25 inches wide. The laminations shall be preformed to assume the configuration shown on Standard Plan STD-401. The ends of the laminations shall be flash coated with pure tin so that they may be fused together to form a solid mass at each end of the bond having a true and smooth rectangular cross section to accept the exothermic weld.

3.2 The number of laminations shall be sufficient to provide a copper cross section area of at least 2000 kcmil.

3.3 The forming of the bond shall be such that, after having been exothermally welded to the rail ends, changes in the gap between rail ends caused by thermal expansion and contraction of the rails amounting to plus or minus 3/16 inch will not induce stresses in the laminations of a magnitude to cause fatigue in the material of the laminations.

PART 4 - SUBMITTALS AND TESTS

=====

4.1 In advance of quantity manufacture, the Vendor shall submit six pre-production sample bonds for trial installation by, and approval of, the Railroad. Quantity production shall begin only upon receipt of authorization based on successful installation of samples.

* * * * *