

INSULATED JOINTS

****From Rutland-Burlington VTRY(3)**

- xx. DESCRIPTION. This work shall consist of furnishing and installing conventional insulated joints at the locations indicated in the Plans and as directed by the Engineer.
- xx. SUBMITTAL REQUIREMENTS. The Contractor shall submit the following to the Engineer for approval:
- (1) Catalog cuts or other manufacturer's descriptive literature on insulated joints and fasteners to be provided.
 - (2) Manufacturer's Field Installation (to include bolt torque) and Test Procedures.
- xx. MATERIALS. Provide insulated joints consisting of two joint bars of same general configuration as 6-hole standard joint bars conforming to the dimensional requirements of the selected rail section. Provide insulated joint bars of rolled, heat treated steel core surrounded by uniform, single pour, polymeric insulation material and designed for use in installations requiring insulated signal joints.

Provide bar, end post, and bushing insulation material impervious to oil, grease, and water, and with electrical resistance characteristics equal to or greater than fiber insulation meeting the requirements of AREMA Manual, Current Edition: Chapter 4, Section 3.9 Specifications for Non-Bonded Encapsulated Insulated Rail Joints. Provide insulated joints highly resistant to abrading, cracking, cutting, spalling, and fatigue failure under impact loads, which shall exhibit deflection characteristics comparable to standard steel rail joints.

Provide insulated joints complete with bars, 3/16 inch end posts, bushings, and washer plates and high strength bolts.

Provide bolts, nuts, and flat washers conforming to the chemical and mechanical requirements of ASTM A 490, Quenched and Tempered Alloy Steel Bolts for Structural Steel Joints, and having Class 2A and 2B thread fit. Provide a positive means for maintaining the tension in the bolts through in service vibrations by a prevailing lock nut complying with Industrial Fastener Institute Standard IFI-100 and IFI-101. Locate and size the bolt holes in conformance to drilling for the rail used in the project as specified in the AREMA Manual or as required by the Engineer. Flat washers, if required, shall be hardened ASAT A 325 or A 490 and tempered carbon steel.

Insulated joints shall be suspended. Tie plates for supported insulated joints shall be polymer, insulated steel plates, or approved equal.

xx. CONSTRUCTION REQUIREMENTS.

- (a) Quality Control. Inspect insulated joints for conformance to the manufacturer's material Specifications before installation of track. Inspect insulated joints after installation to ensure conformance with the approved manufacturer's field installation and test procedures.
- (b) Installation of Insulated Joints. Install insulated joints in accordance with the track Contractor's special trackwork Fabrication Drawings and with the Plans. Provide location of all joints in a Fabrication Drawing for review and approval by the Engineer.
- (c) Conventional Insulated Joints. Install insulated joints in special trackwork in accordance with the applicable requirements of Association of American Railroads (AAR) Signal Manual Part 8.6.35 and approved installation procedures. Determine final location in the field.

xx. METHOD OF MEASUREMENT. The quantity of Special Provision (Insulated Joints) to be measured for payment will be the number of joints installed in the complete and accepted work.

xx. BASIS OF PAYMENT. The accepted quantity of Special Provision (Insulated Joints) will be paid for at the Contract unit price per each. Payment will be full compensation for furnishing, transporting, handling, and placing the materials specified, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
900.620 Special Provision (Insulated Joints)	Each