

PRODUCT SPECIFICATION GUIDE – COMMERCIAL PRODUCTS – EXPANSION &  
DEFLECTION COUPLINGS

SECTION 26 05 33– RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

**Product Specification Guide – Expansion and Deflection Couplings**

**SECTION 26 05 33 – Raceway and Boxes for Electrical Systems**

Specifier Notes: Delete any information below in Parts 1, 2 or 3 which is not required or relevant for the project.

**PART 1 GENERAL**

**1.01 SCOPE**

A. This section includes expansion and deflection fittings for use with Rigid Metal Conduit Type RMC, Intermediate Metal Conduit Type IMC, and EMT Conduit

**1.02 REFERENCES**

- A. Expansion and Deflection Fittings shall comply with:
1. Underwriters Laboratories, Inc. (UL) STD 514B Conduit, Tubing and Cable Fittings
  2. National Fire Protection Association (NFPA): NFPA 70 National Electrical Code (NEC)
  3. Canadian Standard Association (CSA): CSA 22.2 No. 18 3-12

**1.03 SUBMITTALS - FOR REVIEW/APPROVAL**

- A. The following information shall be submitted to the engineer.
1. Manufacturer's descriptive literature and technical specifications for each product
  2. Manufacturer's product drawings when requested
  3. Manufacturer's installation and maintenance document

**1.04 QUALITY ASSURANCE FINAL AS-BUILT DRAWINGS AND PRODUCT DATA INFORMATION**

- A. Manufacturer Qualifications: Products shall be free of defects in material and workmanship.
- B. Furnished products shall be listed and certified by third party agencies as suitable for the intended purpose.

**1.05 WARRANTY**

- A. Product is warranted free of defects in material and workmanship.

PRODUCT SPECIFICATION GUIDE – COMMERCIAL PRODUCTS – EXPANSION &  
DEFLECTION COUPLINGS

SECTION 26 05 33– RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

- B. Product is warranted to perform the intended function within design limits.

**1.06 DELIVERY, STORAGE, AND HANDLING**

- A. Equipment shall be handled and stored in a manner that avoids damage.
- B. Store products in manufacturer's unopened packaging until ready for installation
- C. Equipment shall be inspected prior to installation for damage.
- D. Damaged equipment must not be installed.

**1.07 MAINTENANCE MATERIALS**

- A. Information sheets to be provided for XJG expansion couplings (IF 1508)
- B. Information sheets to be provided for XD expansion couplings (IF 566)

**PART 2 PRODUCTS**

**2.01 MANUFACTURERS**

- A. Acceptable Manufacturers:

Eaton's Crouse-Hinds Business  
1201 Wolf Street  
Syracuse, NY 13208  
(866) 764-5454  
www.crouse-hinds.com

**2.02 GENERAL**

- A. Industrial grade rigid fittings and accessories shall consist the following construction types:
  - 1. Expansion Couplings
    - a. XD Expansion / Deflection Coupling
    - b. XJG Conduit Expansion Coupling
    - c. XJG EMT Conduit Expansion Coupling for EMT
    - d. XJGD Expansion/Deflection Coupling and Expansion Joint
- B. Unless otherwise specified below fittings are UL Listed to UL 514B and CSA Certified to C22.2 No. 18. 3-12

**2.03 DESIGN AND PERFORMANCE REQUIREMENTS**

- A. Expansion Couplings
  - 1. XD Deflection Coupling
    - a. XD deflection couplings shall be used to join two conduit runs in applications where movement in any direction is required.

PRODUCT SPECIFICATION GUIDE – COMMERCIAL PRODUCTS – EXPANSION & DEFLECTION COUPLINGS

SECTION 26 05 33– RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

- b. XD deflection couplings shall provide a flexible, watertight connection, accommodating axial or parallel movement of up to 3/4" and angular movement of up to 30° from normal.
  - c. XD deflection couplings shall be used indoors, outdoors, direct burial or embedded in concrete.
  - d. XD deflection couplings shall have an internal flexible copper braid grounding jumper to safeguard against theft.
  - e. XD deflection couplings shall cover a conduit trade size range from 1" to 6".
  - f. XD deflection couplings shall have NPT tapered threads on each end to accommodate threaded conduit.
  - g. XD deflection coupling hubs shall be made from Feraloy® iron alloy with electro-galvanized finish.
  - h. XD deflection couplings shall have an optional hot dip galvanized finish.
  - i. XD deflection coupling inner bonding straps shall be braided tinned copper
  - j. XD deflection couplings outer jacket shall be molded neoprene rubber.
  - k. XD deflection couplings jacket straps shall be stainless steel.
  - l. XD deflection couplings shall be suitable and UL Listed for use in wet locations and concrete
  - m. XD deflection couplings shall be UL Listed and CSA Certified.
  - n. XD deflection couplings shall be used to join two conduit runs when crossing structural building joints per the NEC
2. XJG Conduit Expansion Coupling
- a. XJG conduit expansion couplings shall be used where RMC or IMC require expansion fittings to compensate for thermal or structural expansion and contraction and where expansion fittings and telescoping section of metal raceway shall be made electrically continuous without the need for external bonding jumpers and clamps
  - b. XJG conduit expansion couplings shall cover a conduit trade size of 1/2" to 6".
  - c. XJG conduit expansion couplings shall accommodate a maximum of 4" or 8" movement in either direction.
  - d. XJG conduit expansion couplings shall be made from steel or copper free aluminum. Steel versions shall have an electro-galvanized finish.
  - e. XJG conduit expansion couplings shall have an optional hot dip galvanized finish.
  - f. XJG conduit expansion couplings shall not require disassembly to install.
  - g. XJG conduit expansion couplings shall be UL listed for use in wet locations.
  - h. XJG conduit expansion coupling Internal bonding springs and metallic bushings create high integrity internal ground connection and eliminate need for external bonding jumpers and clamps (up to 4" trade size) to comply with NEC requirements.
  - i. XJG conduit expansion couplings shall be UL Listed and CSA Certified.
3. XJG EMT Conduit Expansion Coupling for EMT

PRODUCT SPECIFICATION GUIDE – COMMERCIAL PRODUCTS – EXPANSION & DEFLECTION COUPLINGS

SECTION 26 05 33– RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

- a. XJG EMT conduit expansion couplings shall be used where EMT requires expansion fittings to compensate for thermal or structural expansion and contraction and where expansion fittings and telescoping section of metal raceway shall be made electrically continuous without the need for external bonding jumpers and clamps
  - b. XJG EMT conduit expansion couplings shall cover a conduit trade size of 1/2" to 4".
  - c. XJG EMT conduit expansion couplings shall accommodate a maximum of 4" movement in either direction.
  - d. XJG EMT conduit expansion coupling body shall be made from steel and malleable iron with a zinc electro-galvanized finish.
  - e. XJG EMT conduit expansion couplings shall be UL listed for use in wet locations.
  - f. XJG EMT conduit expansion couplings shall have distinct black gland nuts providing quick identification as a wet location fitting.
  - g. XJG EMT expansion couplings contain a metallic bushing and ground springs which creates a high integrity internal ground connection, thus eliminating the need for external bonding jumpers and clamps (Up to 4" trade size) to comply with NEC requirements.
  - h. XJG EMT conduit expansion couplings shall not require an external bonding jumper in order to comply with NEC requirements.
  - i. XJG EMT conduit expansion couplings shall be UL Listed and CSA Certified.
4. XD Expansion/Deflection Coupling
- a. XJGD deflection couplings shall be used to join two conduit runs in applications where movement in any direction is required and where RMC or IMC requires expansion fittings to compensate for thermal or structural expansion and contraction and where expansion fittings and telescoping section of metal raceway shall be made electrically continuous without the need for bonding jumpers external bonding jumpers and clamps
  - b. XJGD expansion/deflection couplings deflection couplings shall provide a flexible, watertight connection, accommodating axial or parallel movement of up to 3/4" and angular movement of up to 30° from normal and be able to accommodate a maximum of 4" movement in either direction
  - c. XJGD expansion/deflection couplings shall be able to accommodate a maximum of 4" movement in either direction.
  - d. XJGD expansion/deflection couplings XD component shall have inner bonding straps shall be braided tinned copper
  - e. XJGD expansion/deflection couplings shall cover a conduit trade size range from 1" to 4".
  - f. XJGD expansion/deflection couplings shall have NPT tapered threads on each end to accommodate threaded conduit.
  - g. XJGD expansion/deflection couplings XD component hubs shall be made from Feraloy® iron alloy with electro-galvanized finish.
  - h. XJGD expansion/deflection couplings XD component outer jacket shall be molded neoprene rubber.

PRODUCT SPECIFICATION GUIDE – COMMERCIAL PRODUCTS – EXPANSION &  
DEFLECTION COUPLINGS

SECTION 26 05 33– RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

- i. XJGD expansion/deflection couplings XD component jacket straps shall be stainless steel.
- j. XJGD expansion/deflection couplings shall be suitable and UL Listed for use in wet locations and concrete
- k. XJGD expansion/deflection couplings shall be UL Listed and CSA Certified.
- l. XJGD expansion/deflection couplings shall be used to join two conduit runs when crossing structural building joints per the NEC
- m. XJGD conduit expansion/deflection couplings shall be UL listed for use in wet locations.
- n. XJGD conduit expansion/deflection couplings internal bonding springs and metallic bushings create high integrity internal ground connection and eliminate need for external bonding jumpers and clamps (up to 4" trade size) to comply with NEC requirements.

**PART 3 EXECUTION**

**3.01 INSTALLATION**

- A. Equipment shall be installed and handled in accordance with the manufacturer's recommendations contained in IF 1508 Assembly-Free XJG Installation & Maintenance Information.
- B. Equipment shall be installed and handled in accordance with the manufacturer's recommendations contained in IF 566 XD Expansion Coupling Installation & Maintenance Information.
- C. Installation shall be in accordance with the NEC and CEC guidelines.