# DIVISION 26 – ELECTRICAL
# 26 05 33 RACEWAY BOXES AND ELECTRICAL SYSTEMS

## PART 1 - GENERAL

1.01 GENERAL:

A. No raceways smaller than 3/4" shall be used.

B. All power cable and systems cable shall be in approved raceway.

C. Non-metallic sheathed cable is not permitted.

D. Outlet boxes shall be metallic and no smaller than 4-inches wide, 4-inches high and 2-1/2 inches deep for new construction.

E. Outside branch circuit buried raceway shall be no smaller than 1-inch in size.

F. Minimum of 1-inch conduit for Data/AV Systems.

G. The use of raceways as an equipment grounding path shall not be permitted.

H. Couplings and fittings to be set screw or compression for metallic conduit.

I. NEC 700 and 701 systems to utilize steel compression couplings and fittings, no exceptions.

J. The use of EMT in concrete slabs shall not be permitted.

K. All electrical raceways in finished areas shall be concealed. Surface conduit or raceway in finished areas shall be pre-approved by a WSU representative.

L. The use of flexible metal conduit and liquid tight flexible metal conduit shall be kept to a minimum, (examples: for final connections to vibrating machinery; light fixture whips, etc.), and shall not exceed 6-feet in length. Use liquid tight conduit where prone to excessive moisture or wash down.

M. Rigid non-metallic conduit (PVC) is permitted for underground installations. Schedule 40 shall be used for light duty and schedule 80 shall be used for heavy duty. Do not use PVC elbows. Type EB is permitted for underground rebar reinforced concrete duct banks.

N. Conduits installed under slab-on-grade shall be buried a minimum of 12” below the bottom of the slab and clearly identified by elevation in Record Drawings.

O. Use RMC or IMC where exposed to physical damage or where exposed to weather. Concrete stub-outs/stub-ups to be RMC or IMC, with the curved portion of the elbow completely encased in concrete.

P. Fire alarm and clock systems shall be in steel raceway.

Q. Raceways penetrating a fire rated assembly shall be sealed to the same or better fire resistance rating than the rated assembly in accordance with the current and adopted version of UL.

R. Seal both ends of all raceways which enter the building, to control temperature variance inside the raceway and minimize condensation. Use raceway/duct sealant manufactured for the purpose. Seal all raceways entering freezers and refrigeration units.

S. For underground conduit entering a building into top-fed equipment, install a junction box with drainhole to allow moisture to drain and prevent moisture from entering top-fed equipment.

T. Raceways shall be supported by the building structure. Do not support electrical raceways from HVAC, plumbing, or suspended ceiling systems.

U. Branch circuit raceway shall not have more than seven (7) conductors within a raceway: three (3) ungrounded conductors, three (3) grounded, and one (1) equipment grounding conductor.

V. ADA Door Operators: For all new and renovated restrooms, provide conduit and junction boxes to facilitate current or future installation of ADA door operators: one future door button on each side of the door, and one door operator at the top of the door.

## PART 2 - PRODUCTS

2.01 MANUFACTURERS:

A. Republic Conduit

B. Allied Tube & Conduit

C. Carlon

## PART 3 - EXECUTION

3.01 UNDERGROUND CONDUIT TESTING

A. Pressure Test: Prior to pulling electrical cable through underground conduits, Contractor shall pressure test underground conduit entering a building to verify quality of installation and that conduit was not damaged during subsequent construction. Air pressure test at 25 psi for at least 60 seconds to verify that conduits remain intact. Air pressure test shall be observed and approved by the WSU Construction Manager.

B. Prior to pulling electrical cable through underground conduits, Contractor shall pull a properly-sized swab and mandrel through main building service / secondary feeder conduits to clean and verify that conduit is intact.

**END OF SECTION**