ELECTRICAL DISTRIBUTION SYSTEMS – CONTRACTOR SUMMARY

The seismic restraints for electrical distribution systems are applied and installed in the same basic way as are those for pipe and duct. The preceding sections in the Installation portion of this manual, Sections I1.0 through I8.0 will apply to the basic restraint installation for electrical distribution systems. There are, however, some points that will need to be considered.

1. Kinetics Noise Control restraint products are designed specifically for suspended distribution systems. The application of these products to wall mounted distribution systems is difficult. Each supported for wall mounted distribution systems should be designed, selected, and analyzed to support both the dead weight load of the distribution system, and the code based design horizontal seismic loads. This should be done by the engineer of record for the distribution system in conjunction with the structural engineer and/or the architect.
2. Sections I1.0 and I2.0 are valuable guides on the basics of seismic restraint planning and installation.
3. Single supported and trapeze supported conduit are treated exactly like single clevis supported and trapeze supported pipe. See Sections I3.0 and I6.0 of this manual for examples of restraint schematics and attachments to hangers and trapeze bars.
4. Trapeze supported bus ducts and cable trays are restrained in a manner similar to duct. See Sections I4.0 and I6.0 of this manual for examples of restraint schematics and attachments to trapeze bars.
5. The structural attachment end of the restraints for conduit, bus ducts, and cable trays is treated exactly like that for pipe and duct. See Section I5.0 of this manual for examples of structural attachments for Kinetics' products.
6. There will be occasions when cable type restraints can not be used due to the close proximity of a wall, or another object. In situations like these, strut type restraints can also be used with conduit, bus ducts, and cable trays. See Section I7.0 of this manual for selecting and applying strut type restraints.

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7. For “long” – small diameter hanger rods, hanger rod stiffeners may be required as they are for pipe and duct. See Section I8.0 of this manual for the use and installation of hanger rod stiffeners.
8. For cable trays – the cables in the trays should be strapped or clamped to the cable trays at a spacing not to exceed one half of the hanger spacing. This will make sure that the seismic loads are evenly distributed to the restraint locations.
9. Cable trays must be properly attached to the trapeze bars with seismic restraints. See Appendices A3.4 and A3.6 for hardware sizes and quantities required to resist seismic loads, and see Appendix A3.5 for weld sizes and lengths required to resist seismic loads.
10. Not all suspended cable trays are supported by trapeze bars. For those which are not supported by trapeze bars contact the manufacturer of the cable tray for the details required to attach seismic restraints to the cable trays.

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