

**SECTION 16142**

**ELECTRICAL CONNECTIONS**

**Part 1 -Design Directives**

Details of electrical connections need not be included in the drawings. Reference to methods and products in the specification is sufficient to convey the requirements of this section.

**Part 2 -Products**

Ideal "twister" brand splicing device or approved equal.

Compression crimps for grounding electrode systems shall use Burndy type YGHC-C HYTAP connectors and type YGL-C HYGRID cross connectors or approved equals.

Raychem type RVC motor connection insulation

**Part 3 -Execution**

Splicing shall be made by wire nut for all conductors up to and including #10 and by compression crimp connector for all conductors larger than #10. Use Ideal "twister" brand or approved equal. Careful attention shall be paid to the allowable number of conductors joined by a single wire nut.

Motor splices shall be made using ring type compression connectors attached to the feeders and motor leads. The ring type connectors shall be bolted together with machine screws and fiber locknuts to facilitate removal and re-connection. Insulation used on these splices shall be applied so as to minimize any residue that will hinder future disconnection and reconnection activities. (i.e., rubber compound that melts into the connectors and onto the insulation shall be separated from the joint by a dry insulating material before application)  
Raychem type RVC motor insulation is the preferred method.

All branch circuit and feeder splices must be readily accessible as defined in the NEC.

All connections of grounding electrode conductors shall be made using compression crimp or exothermic welding processes. Single and multiple hole setscrew lugs shall not be used anywhere on the grounding system except at grounding bushings and where supplied on equipment by the manufacturer.

All splices shall be covered with electrical insulating material to provide an insulation rating equivalent to or greater than the insulation rating of the conductors that are being spliced.

Direct buried underground splicing of conductors is not allowed under any circumstances on new construction projects.

Medium voltage cable splices shall be made using factory assembled kits of the type specified below:

<b>5kV systems</b>	
3M cold shrink splice kits:	# 5551 (#6 to 4/0)
	# 5552 (4/0 to 500 kcmil)
	# 5553 (500 to 1000 kcmil)
3M cold shrink termination kits:	#7622-T-110 (4/0 to 400 kcmil)
	#7624-T-110 (500-750 kcmil)

<b>15kV system</b>	
Raychem splice kit:	#HVS-1521S (#2 to 4/0)
	#HVS-1522S (250 to 350 kcmil)
Raychem termination kit:	#HVT-151-G (4 to 1/0)
	#HVT-152-G (2/0 to 350 kcmil)

Modular splices and terminations in 13.2 kV systems shall be Elastimold 15kV dead break elbows, 600 amp:# K656BLR with #20MA grounding kits or approved equal.

Modular splices and terminations in 5 kV and 13.2 kV systems shall be Elastimold 15kV load break elbows, 200 amp: 166LR-WX; Dead break elbows: 600 amp:# K655LR-W0X all with #20MA grounding kits.

College electricians will perform all medium voltage splicing (4.16 & 13.2 KV systems) unless the contractor can provide evidence of qualification for their staff. The college reserves the right to decide what firms will perform medium voltage splicing on a case-by-case basis.

College electricians are the only workers allowed to operate equipment on the medium voltage system. College electricians will make the final connections to our utility system and energize all medium voltage feeders supplying new and remodeled facilities on campus. Approval to energize new equipment is contingent upon a complete installation that has been approved by Dartmouth College and the Town of Hanover Code Office.