



CONSTRUCTION
INDUSTRY COUNCIL
建造業議會

Cable Jointer (Low Voltage) Trade Test Mock Practical Test Paper

此文件關於強電流電纜接駁技工（低壓）工藝測試考題。如有需要索取此文件的中文版本，請致電 2100 9000 與香港建造業工藝測試中心聯絡。

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Enquiries

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Test Paper for Trade Test

Job Title : Cable Jointer (Low Voltage)
Skill Level : Skilled worker
Time Limit : 4 hours (not including lunch hour)

Test: Complete the following trade tests shown below:

Question 1 : LV Straight Joint

(Total mark is 50 , Passing mark is 30.)

Question 2 : LV Cable Termination

(Total mark is 50 , Passing mark is 30.)

- ♦ Candidates must get not less than 30 marks in each test and pass prove dead test of LV cable.

Prove dead test of LV cable

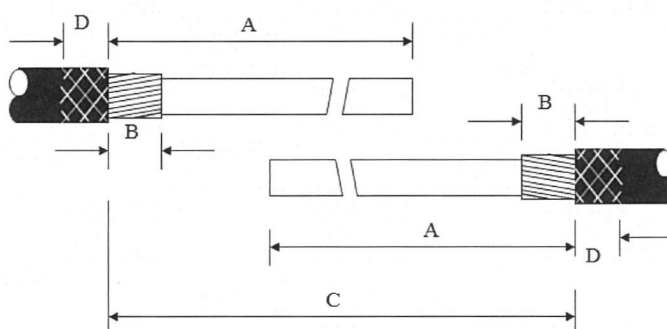
Use the appropriate method, person protective equipment and testing equipment to check which core of cable is live within 5 minutes.

Trade Test for Construction Industry Cable Jointer (Low Voltage)

Question 1 : LV Straight Joint

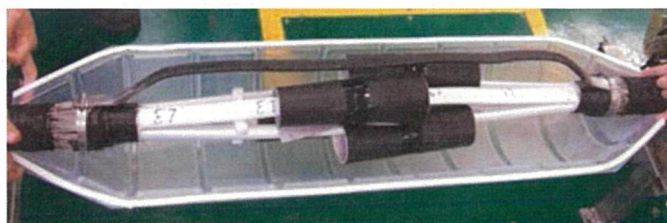
1. Cut the LV 300mm² 4 / C aluminum solid conductor cable at the middle, then carry out the straight joint with the instruction of cable preparation shown below;
2. Lift the armour wires and clean the armour thoroughly at **only one** end.
3. After connect the cores to the connectors, tighten the bolts by the torque wrench to 12Nm.
4. Please inform invigilator after cable connection is completed. Invigilator will carry out **contact resistance test (ductor test)** to verify that electrical connections are made properly at the cable joint.
5. Under the instruction of invigilator, leave or carry out the question 2 of trade test.

Figure 1. LV Straight Joint

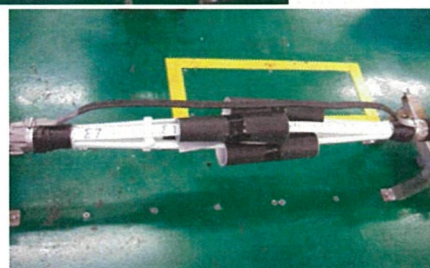
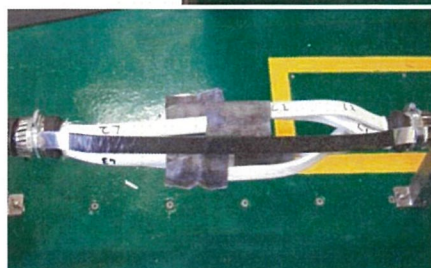


Cable	A (mm)	B (mm)	C (mm)	D (mm)
300mm ²	600	70	720	50

*** After complete cable preparation and before fit the joint shell, you must inform the invigilator to check the details.**



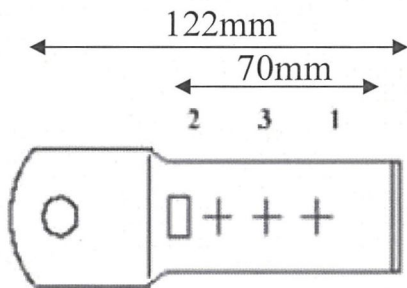
For Your Reference



Question 2 : LV Cable Termination

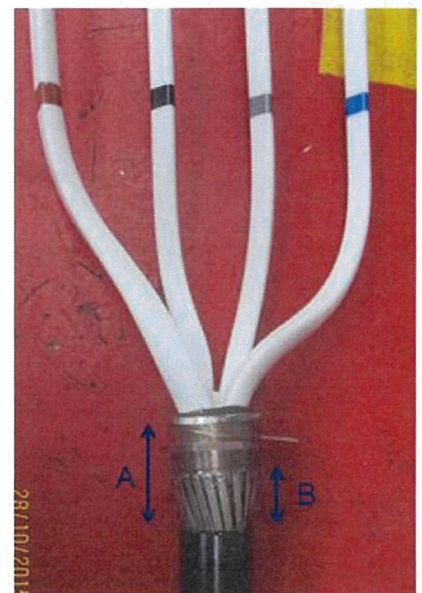
1. Connect the LV 300mm² 4 / C aluminum solid conductor cable to the copper bar inside the cable end box with instruction shown below
2. After complete cable preparation and fix the cable in the cable end box, candidates need to draw lots to decide which **two** cable lug to be crimped.
3. Lift the armour wires and clean the armour thoroughly
4. Apply the densal at the connection between cable cores and lugs.
5. Please inform invigilator after cable connection is completed. Invigilator will carry out **contact resistance test (ductor test)** to verify that electrical connections are made properly between cable and lugs.
6. Under the instruction of invigilator, leave or carry out the other question of trade test.

LV Cable Termination figure

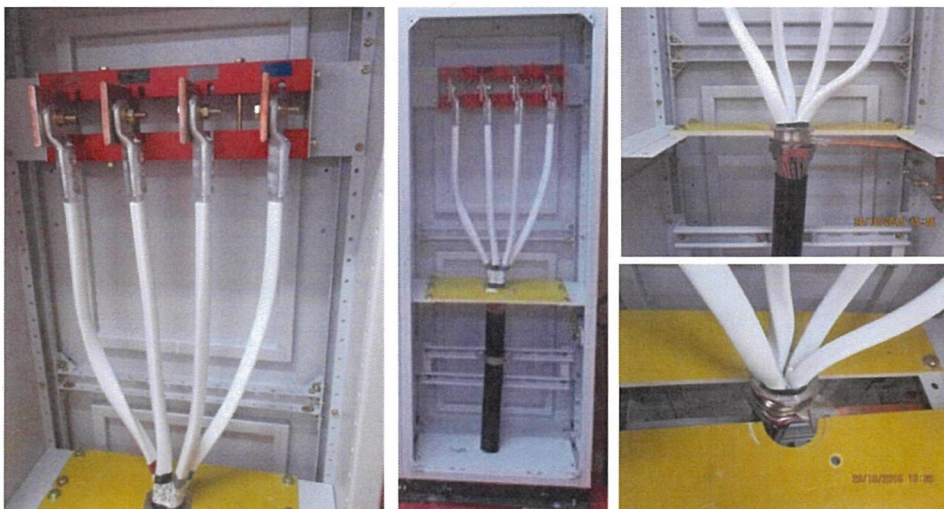


Sequence of Crimping

Cable	A(mm)	B(mm)
300mm ²	100	50



*** After complete cable preparation and position the cable gland, please inform invigilator to check the details first. And then crimp the cable lugs.**



For Your Reference

Trade Test for Construction Industry
Cable Joiner (Low Voltage)

LV Straight Joint Tool List





<u>LV Straight Joint Tool List</u>	
1. 3/16" Socket Wrench	10. Hex Key
2. Torque Wrench (1-20Nm)	11. Hammer
3. Hacksaw	12. Scissors
4. Marker	13. 7mm Hex Screwdriver
5. Electrical Knife	14. Steel Measuring Tape
6. Cable Core Twisters	15. Combination Pliers
7. Tin Snips	16. Cable Core Wedge
8. Ratchet Cable Cutters	17. Diagonal Cutter
9. Flat File	18. Core Bending Tool

Remark : Before leave, the tools must be returned and checked by Invigilator.

**Trade Test for Construction Industry
Cable Jointer (Low Voltage)**

LV Cable Termination Tools List

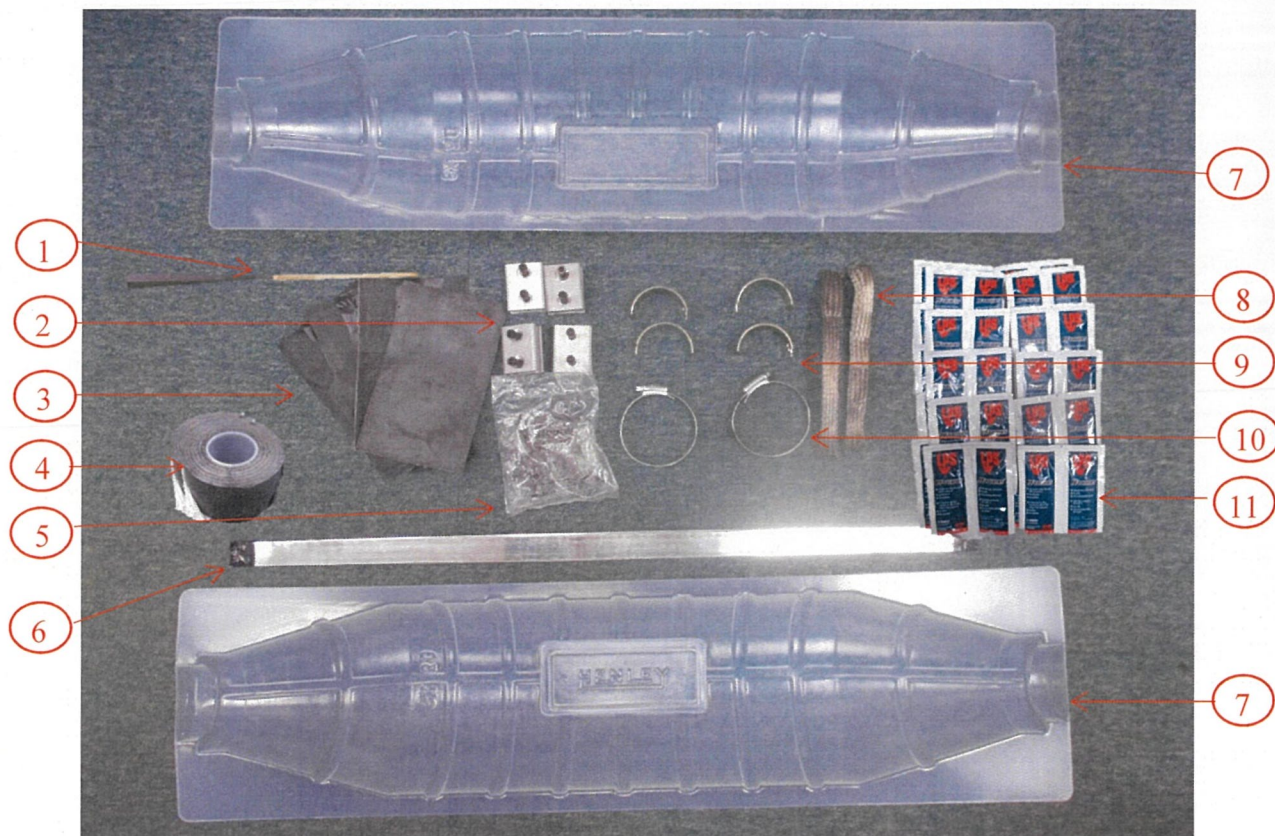


<u>LV Cable Termination Tools List</u>	
1. Ratchet Tool	13. Scissors
2. Socket Wrench – 17mm	14. 7mm Hex Screwdriver
3. Die Set (For Battery crimping tool)	15. Steel Measuring Tape
4. Marker	16. Slip-joint Pliers
5. Electrical Knife	17. Core Bending Tool
6. Ratchet Cable Cutters	18. 17mm Spanner
7. Nylon Cable Core Twister	19. Diagonal Cutter
8. Socket Wrench – 14mm	20. Open End Spanner
9. Flat File	21. Battery Crimping Tool
10. Metal Cable Lug Twister	
11. Hammer	
12. Hacksaw	

Remark : Before leave, the tools must be returned and checked by Invigilator.

Trade Test for Construction Industry
Cable Joints (Low Voltage)

LV Straight Materiel List



LV Straight Materiel List			
Description	QTY	Description	QTY
1. Sandpaper	1	7. S.T.JOINT SHELL SET	1
2. Connector	4	8. Tinned Copper Braid	2
3. Insulation Pad	4	9. Armour Ring	2
4. PIB self amalgamating tape	1	10. Wormdrive Clip	2
5. Steel Edge Clip(Double Flared)	44	11. Solvent Towel	10
6. Armour Bonding Strip	6		

Trade Test for Construction Industry
Cable Joiner (Low Voltage)

LV Cable Termination Materiel List



LV Cable Termination Materiel List		
Item	Description	QTY
1	Solvent Towel	6
2	Cable Lug	4
3	Densal	1
4	Cable Gland Kits	1
5	Sandpaper	1

Trade Test for Construction Industry
Cable Jointer (Low Voltage)

Equipment list



Equipment list		
Item	Description	QTY
1	Rag	-
2	Kerosene	1
3	Safety Helmets	1
4	Chemical-Resistant Gloves	2
5	Labor Insurance Gloves	1
6	Cut Resistant Gloves	1
7	Liquefied Petroleum Gas Equipment	1



Notes to Candidates :

1. Candidates should read the test papers carefully and ask the invigilator for any queries.
2. Candidates should study the drawings and specifications attached to test papers, if any, before the test begins.
3. Candidates should carry out the test according to test papers, working drawings and specifications provided.
4. Candidates shall bring their own safety shoes, other safety equipment will be provided by trade testing centre. Candidates must take all necessary safety precautions to ensure work safety.
5. All tools and materials required by the test will be provided by trade testing centre, candidates should check and ensure their adequacy and quality. Candidates shall use the tools and materials properly based on trade practice. All the tools must be returned to trade testing centre after the test. The candidates may ask the invigilator for any problems.
6. Candidates are required to handle and move the tools and materials for use in the test, and to carry out associated works.
7. Invigilator will take record photos periodically during the test.
8. Candidates are not allowed to take any photo or video with cameras or mobile phones.
9. Candidates are not allowed to use their mobile phones during the trade tests, except for emergency situation.

10. The marking scheme is based on the following criteria :
 - a) Understanding of drawing and specification
 - b) Preparation works before commencement of test
 - c) Working procedures
 - d) Accuracy and quality of works
 - e) Progress of works
 - f) Proper handling and use of materials
 - g) Proper use of tools and equipment
 - h) Safety precautions
 - i) Considerate of other trades
 - h) Housekeeping after completion of test
11. All candidates must stop when time is up.
12. Candidates are required to return the test paper to invigilator after the test.
13. Offering bribe to invigilator is an offence in law and trade testing centre will report to the ICAC for any such case.

In the event that the candidate fails to take any necessary safety precautions and / or works in any dangerous situations, he / she will be assessed failed