



CONSTRUCTION
INDUSTRY COUNCIL
建造業議會

Refrigeration/ Air- conditioning/ Ventilation Mechanic (Air System) Intermediate Trade Test Mock Practical Test Paper

此文件關於空調製冷設備技工（送風系統）中級工藝測試考題。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

Enquiries on this Material may be made to the Hong Kong Construction Industry Trade Testing Centre at:

95, Yue Kwong Road
Aberdeen
Hong Kong

Tel: (852) 2100 9000

Fax: (852) 2100 9090

Email: enquiry@cic.hk

Website: www.cic.hk

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Test Paper for Intermediate Trade Test

Job Title : Refrigeration / Air-conditioning / Ventilation Mechanic (Air System)

Skill Level : Medium-skilled worker

Test: Complete the following practical tasks at the specified locations: (please refer to the work drawings)

1. According to the locations and heights specified in the drawing, hoist the air duct with screw shafts and brackets, which include:
 - a. Air duct elbow and straight air duct – connect with angle flange
 - b. Connect straight air duct and reducer – connect with German flange
2. At the specified location in the drawing, make a hole on the straight air duct;
3. Use a hand electric drill to make a hole on the straight air duct, and use pop rivets to connect the sub air duct;
4. According to the specified height of the aluminum air grille, modify the short air duct (pump nozzle);
5. Connect the sub air duct and short air duct (pump nozzle) — connect with C-shaped seam;
6. Install the aluminum air grille;
7. According to the specified location on the drawing, make a hole on the air duct elbow;
8. Use a hand electric drill to make a hole, and use pop rivets to connect the round pipe nozzle;
9. Add sealing component to the seam of the round pipe nozzle

Note:

Candidates should decide the position and quantity of screw shafts and brackets by themselves

Distance of air duct from the floor: $\pm 20\text{mm}$

Distance of air duct from the wall: $\pm 10\text{mm}$

Distance of air grille from the floor: $\pm 5\text{mm}$

Size of hole: $+ 0 - 4\text{mm}$

After the holes on the straight air duct and air duct elbow are made, you should notify the invigilator for inspection before proceeding with other tasks.

Time Limit : 3 hours

Points to note :

- (1) Before you start, read all instructions for candidates below and test paper carefully. If you have any questions, ask an invigilator immediately.
- (2) You will fail the test if you do not take proper safety measures during the test.
- (3) After the test, clean up the venue and restore its original condition as instructed by the invigilators.
- (4) Full score of each test is 100. Candidates must score 60 marks or above to pass.

List of air duct components, materials and tools

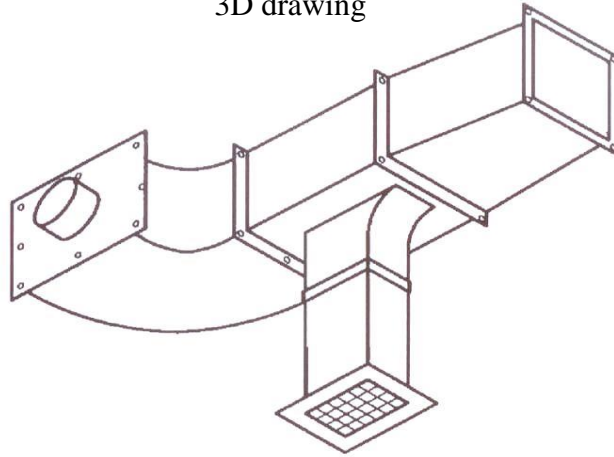
Item	Air duct components	Quantity	Item	Materials	Quantity
1	Straight air duct	1	1	3/8" screw shafts	20
2	Air duct elbow	1	2	3/8" screw nuts, flat washer	As appropriate
3	Reducer	1	3	M8 x 25 Hexagon bolts and nuts	14 sets
4	sub air duct	1	4	Bracket	6
5	Short air duct (pump nozzle)	1	5	C-shaped seam	1
6	Round pipe nozzle	1	6	C-shaped	6
7	Aluminum air grille	1	7	Plastic seal	1 roll
			8	Sealing compound	1 枝
			9	1/8" pop-rivet	10 枝

Item	Tools	Quantity	Item	Tools	Quantity
1	Pencil	1	15	Flathead screwdriver	1
2	Marker	1	16	Multi-purpose lock plier	2
3	Scriber	1	17	14" iron cutter	1
4	Center punch	1	18	10" iron cutter	1
5	24" straight steel ruler	1	19	10" iron cutter (curve cutter)	1
6	12" straight steel ruler	1	20	Iron saw (24-tooth blade)	1
7	Measuring tape, 5M	1	21	Iron saw (36-tooth blade)	1
8	Angle square	1	22	Hand hammer	1
9	12" divider	1	23	Wood square dowel	1
10	24" spirit level	1	24	Plaster hammer	1
11	12" spirit level	1	25	Riveter	1
12	15mm combination wrench	2	26	Hand electric drill	1
13	13mm combination wrench	1	27	9/64" drill	1
14	13mm fixed head ratchet spanner	1	28	Compound sealer	1

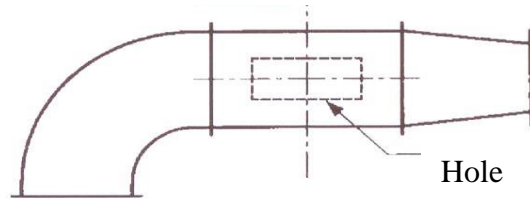
Note: After completing the test, candidates should return all borrowed tools as well as this test paper. Candidates may not leave until the invigilator's instructions.

Work Drawing

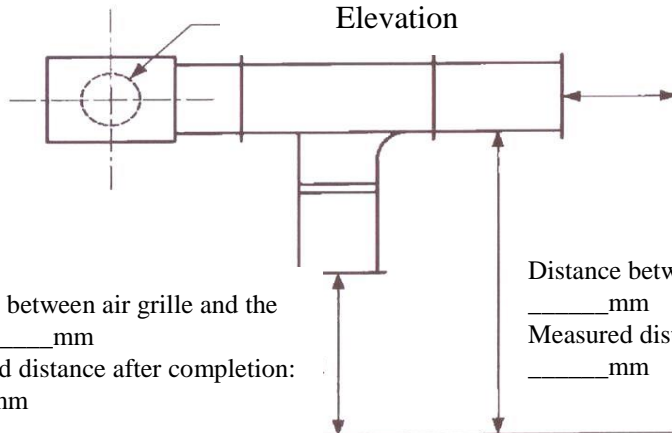
3D drawing



Bird's eye view drawing



Hole Elevation



Distance between air duct and the wall: _____ mm
Measured distance after completion: _____ mm

Distance between air grille and the floor: _____ mm
Measured distance after completion: _____ mm

Distance between air duct and the floor: _____ mm
Measured distance after completion: _____ mm

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
 - j) 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