



7th International Abilympics

Vocational Skills Contest

V24. Precision Sheet Metal Work

1. Task

Fabricate a product specified in the fabrication production drawing according to the following instructions and specifications.

2. Allocated time

Standard time: 1 hour 40 minutes

Maximum 2 hours

3. Instructions

- (a) Contestants should first confirm that the items, quantities, etc., of the provided materials are those specified in advance.
- (b) Contestants who find defects in materials should notify the judge.
- (c) In principle, after the contest is started, the items of materials already provided will not be provided again.
- (d) Tools, etc., other than those specified in sections 5, 6, and 7 below must not be used.
The use of private gauges, etc., is prohibited.
- (e) Contestants are not allowed to lend or borrow tools, etc.
- (f) Clothing, etc., to be worn during the contest should be that suitable for the work.
- (g) Prior to the contest, about 5 minutes will be given as time to make a trial bending with the press brake to allow each contestant to calculate the elongation rate of the material. This interval of time will not be included in the allocated time. For this trial bending, a die for 90 degrees bending work will be used, which contestants will not have to install themselves.
- (h) Contestants who find an abnormal condition with the shear, corner shear, press brake, or any other attached equipment (abnormal sound, vibration, heat generation, etc.) must immediately stop the machine and notify the judge.
- (i) Contestants must notify the judge when they finish the task.
Note that such notification should be made after removing the die from the press brake and placing the product on the platen for modification.
- (j) Contestants must not remove the provided tools, etc., from the site when leaving after completing the work.
- (k) Contestants must not bring into the site the task assignment sheet with memos, relevant document/memos, reference books, etc.

4. Specifications

- (a) The finished work shall be presented in a state where the body and bracket are combined.
- (b) Trial bending for calculating the elongation rate of the material shall be conducted using the material for trial bending.
- (c) For confirming the back gauge measure of the shear and the gauge measure of the corner shear, and a material for trial bending of the press brake, the remaining part of materials of the materials for product fabrication shall be used.
- (d) Both installation and dismantling of the press brake shall be handled by each contestant.
- (e) Parts other than those designated shall not be filed except to remove burrs.
- (f) The marks, etc., written by a marking pen shall be completely erased before the product is presented.
- (g) There shall be no marking-off lines on the product surface.

5. Materials to be provided on site

Items	Dimension or standard	Qty	Remarks
Cold-rolled steel plate Category I	SPCC 600 × 600 × 1.2mm	1 sheet	For product fabrication
Cold-rolled steel plate Category I	SPCC 200 × 100 × 1.2mm	1 sheet	For trial bending
Plate for expansion calculation	B4 size or A4 size	1 sheet	

6. Items to be brought by each contestant

Items	Dimension or standard	Qty	Remarks
Straight edge ruler	About 300mm	1	
Vernier calipers	About 300mm	1	
Protractor		1	
Convex rule	About 2m	1	
Marking needle		1	
Square ruler	About 50 x 75mm	1	
Wooden hammer		1	A plastic hammer may be used
Hammer		1	
Patch		1	
Chisel		1	
File	Flat, second-cut, about 300mm	1	
Marking pen		1	For marking the bending direction
Calculator		1	For expansion calculation
Shop rag		A few	
Work clothes, etc.	Suitable for the work (safety shoes to be worn)	Set	Including gloves

(Note)

Contestants who wish to bring their own equipment, tools, etc., including those listed in section 6 above are requested to prepare a list of such tools and present it to the organizer for approval in advance.

The organizer reserves the right not to allow the use of any tools that are considered to give the contestant an unfair advantage.

7. Equipment, tools, etc., to be prepared on site

Items	Dimension or standard	Remarks
Platen (for marking)	About 630 × 400mm × 70	
Platen (for modifying product)	About 630 × 400mm × 70	
Shear	M1260 (W1674×D2230×H1380) manufactured by Amada or similar	AC200V
Corner shear	CSH220 (W1100×D1160×H1137) manufactured by Amada or similar	AC200V
Press brake	RG35(W1200×D1495×H2055) or similar, manufactured by Amada	AC200, attached with die
Tool for installing die		
Height gauge	Measuring length: about 300mm	
V-shaped block	150 type	
Working table and chair	W1800×D750×H745	
Vernier calipers	About 600mm	
Blue varnish spray	300ml	For marking
Blue varnish spray remover	420g	For marking
Leather gloves		

8. Evaluation criteria

Items to be evaluated	Maximum marks allotted
Dimensional accuracy	56
Quality of work	15
Specification error	15
Working time	14
Total	100