

Assessment Evidence Guide

For

“Assistant Caster”

Level-2

Module name
(Formative Assessment)

8th -12th March 2021



National Vocational & Technical
Training Commission

Title of Qualification: Assistant Caster	CS Code:	Level: 2	Version: 01
Competency Standard Title: Perform Gravity Die Casting	Assessment Date (DD/MM/YY): Assessment Time:		

Candidate Details	Name: Registration/Roll Number:.....
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment) as per the instructions given in Annexure A:</p> <p>Assessment Task 1: Candidate is required to: Prepare equipment for casting.</p> <p>Assessment Task 2: Candidate is required to: Carry out manual pouring.</p> <p>Assessment Task 3: Candidate is required to: Remove extra materials</p> <p>Assessment Task 4: Candidate is required to: Clean die after casting</p> <p>And complete:</p> <ol style="list-style-type: none"> 1. Knowledge assessment test (Written or Oral) 2. Portfolios at the time of assessment (if any)
Minimum Evidence Required	<p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <ul style="list-style-type: none"> • Mix die coat in correct proportion. • Maintain die temperatures at the correct level. • Use appropriate safety clothing and apparatus • Apply die coat in correct sequence according to standard operating procedures. • Place die correctly on machine • Handle closing of die correctly. • Attach clamps as per requirement • Attach air-cooling to the die as specified if required.

	Assessment Task 2 <ul style="list-style-type: none"> • Select appropriate pouring tool • Take melt from furnace • Pour melt in die while ensuring the minimal porosity and lamination. • Make allowance for adequate cooling time • Pour at a continuous and appropriate rate during filling. • Monitor die coating condition • Re-spray die coat as required.
	Assessment Task 3 <ul style="list-style-type: none"> • Remove cast parts from the die • Store parts in a manner that minimises damage • Remove flash from the die surface
	Assessment Task 4 <ul style="list-style-type: none"> • Operate shot blaster in a safe manner according to standard • Apply remedial action as required to standard operating procedures. • Dross / De-gas furnace to standard operating procedures. • Clean work area of coating • Clean shot residue to appropriate standard.
	Portfolios required at the time of assessment (if any) for

Continued on following page

Assessors Judgment Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration			✓				
Knowledge Assessment	✓	✓					
Other Requirement							

Each Assessment Task (with performance criteria)				
Assessment Task 1		Description of assessment task 1		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Mix die coat in correct proportion.			
2.	Maintain die temperatures at the correct level.			
3.	Use appropriate safety clothing and apparatus			
4.	Apply die coat in correct sequence according to standard operating procedures.			
5.	Place die correctly on machine			
6.	Handle closing of die correctly.			
7.	Attach clamps as per requirement			
8.	Attach air-cooling to the die as specified if required			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Assessment Task 2		Description of assessment task 2		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Select appropriate pouring tool			
2.	Take melt from furnace			
3.	Pour melt in die while ensuring the minimal porosity and lamination.			
4.	Make allowance for adequate cooling time			
5.	Pour at a continuous and appropriate rate during filling.			
6.	Monitor die coating condition			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Assessment Task 3		Description of assessment task 3		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Remove cast parts from the die			
2.	Store parts in a manner that minimizes damage			
3.	Remove flash from the die surface.			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Assessment Task 4		Description of assessment task 4		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Operate shot blaster in a safe manner according to standard			
2.	Apply remedial action as required to standard operating procedures.			
3.	Dross / De-gas furnace to standard operating procedures.			
4.	Clean work area of coating			
5.	Clean shot residue to appropriate standard.			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Title of Qualification: Assistant Caster	CS Code:	Level: 2	Version: 01
Competency Standard Title: Perform Gravity Die Casting	Assessment Date (DD/MM/YY): Assessment Time: 30 min		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
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Assessors Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name:..... Registration/Roll Number: Candidate Signature:
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:

Title of Qualification: Assistant Caster	CS Code:	Level:2	Version:01
Competency Standard Title: Perform Gravity Die Casting	Assessment Date (DD/MM/YY): Assessment Time: 30 min		

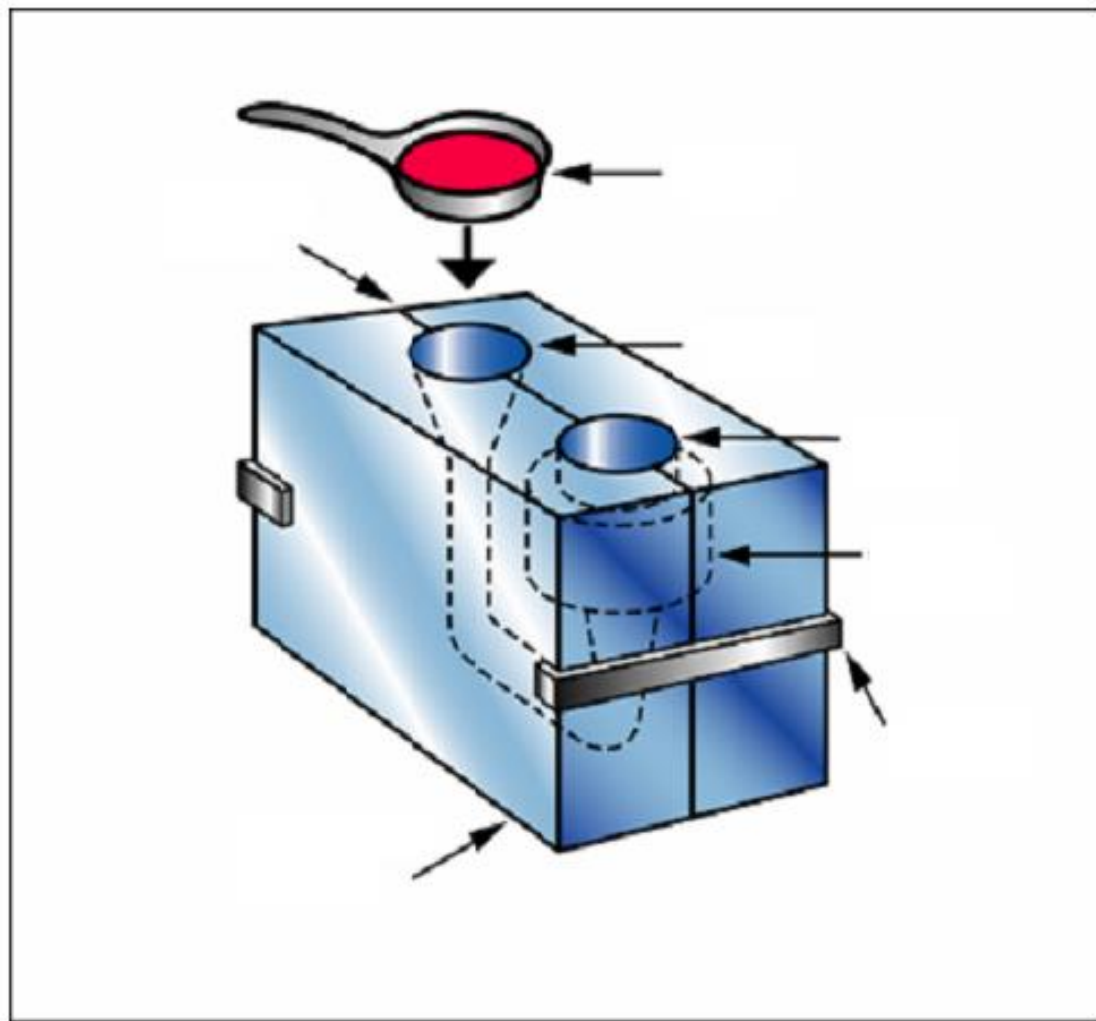
WRITTEN ASSESSMENT

Question	Candidate's answer
1. Define gravity die casting?	<ul style="list-style-type: none"> permanent mould casting process, where the molten metal is poured from a vessel or ladle into the mould
2. Define die coating?	<ul style="list-style-type: none"> protects the surface of the die from molten aluminium and prevents this erosion from occurring
3. Name few materials which can be die casted?	<ul style="list-style-type: none"> Aluminum Copper Lead Tin Magnesium
4. What are advantages of die casting?	<ul style="list-style-type: none"> Dimensional accuracy More Stability More Strength
5. Name different methods of melting of metal.	<ul style="list-style-type: none"> Using heat torch Induction furnace Gas furnance
6. Why die casting is used?	<ul style="list-style-type: none"> Die casting is mainly used for large series production
7. Which kind of casting can be produced by gravity die casting?	<ul style="list-style-type: none"> Both simple and complex quality castings can be produced

Question	Candidate's answer
8. How molten metal is poured & filled in mould in gravity die casting?	<ul style="list-style-type: none"> In Gravity Die Casting, the molten metal is poured into the mould from above, which fills from the bottom up, purely under gravitational force

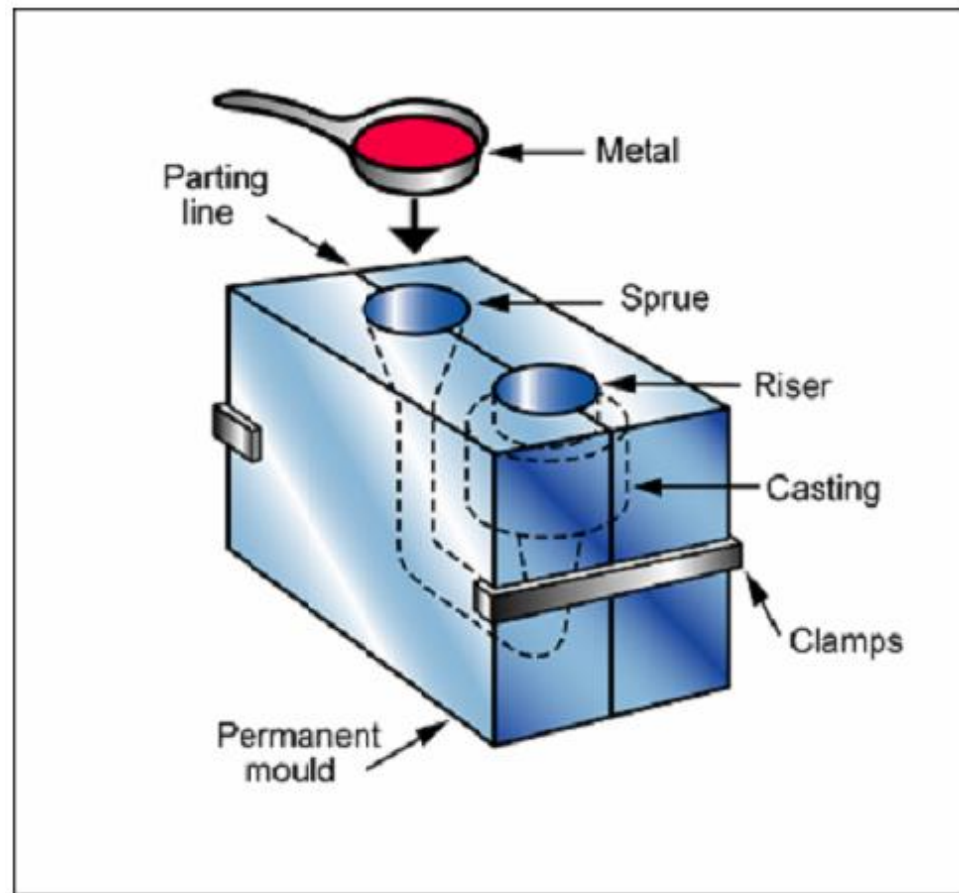
Annexure A:

Q: Identify and explain briefly the parts in the figure.



Gravity Die Casting

SOLUTION



Gravity Die Casting