



Australian Government

RIIPSM307D Control molten metal in holding furnace/vessel

Release: 2

RIIPSM307D Control molten metal in holding furnace/vessel

Modification History

Release	Comment
1	This unit replaces RIIPSM307A Control molten metal in holding furnace/vessel
2	Required frequency and volume of evidence amended in Performance evidence. Substantial amendments made in Assessment Conditions field, including: references to Industry Sectors, assessor and subject matter expert experience requirements, how assessment should be conducted and what it should confirm.

Application

This unit describes a participant's skills and knowledge required to control molten metal in a holding furnace/vessel in Metalliferous mining.

This unit is appropriate for those working in operational roles.

Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Relevant information must be sourced prior to application of the unit.

Unit Sector

Metalliferous mining

Elements and Performance Criteria

1. Prepare to control molten metal in holding furnace/vessel	1.1 Access, interpret and apply smelting documentation and ensure the work activity is compliant 1.2 Establish and maintain communication with other personnel 1.3 Select personal protective equipment for the work activity 1.4 Identify, address and report potential risks, hazards and environmental issues and implement control measures 1.5 Follow emergency procedures 1.6 Check and test remote control and monitoring systems 1.7 Plan and put work area ventilation in place
2. Operate and monitor holding	2.1 Carry out plant and equipment start-up checks and procedures

furnace operations	2.2 Monitor and receive matte and/or slag flow from furnace 2.3 Control furnace rotation/tilting within recommended rate and angle parameters to efficiently separate matte and slag 2.4 Control main and secondary burner operation to hold constant, recommended matte and slag temperature 2.5 Carry out holding furnace drive equipment fault finding 2.6 Ensure regular monitoring of holding furnace operations during the shift, record and rectify identified faults 2.7 Plan and organise matte supply to converter with other personnel and adjust tonnage 2.8 Maintain cleanliness of spouts to allow consistent, continuous flow of molten metal
3. Discharge matte and slag to matte and slag pots	3.1 Ensure pot area is clear of personnel and machinery before pouring commences 3.2 Position pot correctly to avoid splash, spillage or damage 3.3 Rotate vessel/pot at correct angle to ensure an even flow of matte and slag 3.4 Assess matte and slag levels and pour slag and dispose of matte ensuring that pot is not overfilled 3.5 Collect and measure samples to ensure the slag and matte quantity is in an acceptable range

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit. Further information is available in the Resources and Infrastructure Industry Training Package Companion Volume.

Unit Mapping Information

RIIPSM307A Control molten metal in holding furnace/vessel

Links

Companion Volume implementation guides are found in VETNet - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIPSM307D Control molten metal in holding furnace/vessel

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Performance Evidence

Evidence is required to be collected that demonstrates a candidate's competency in this unit. Evidence must be relevant to the roles within this sector's work operations and satisfy all of the requirements of the performance criteria of this unit and include evidence that the candidate:

- locates and applies relevant documentation, policies and procedures
- works effectively others to undertake and complete the controlling of molten metal in a holding furnace/vessel that meets all of the required outcomes including:
 - complying with written and verbal reporting requirements and procedures
 - communicating clearly and concisely with others to receive and clarify work instructions and coordinate activities
- demonstrates completion of the controlling of molten metal in a holding furnace/vessel that safely, effectively and efficiently meets all of the required outcomes on more than one (1) occasion including:
 - carrying out plant and equipment start-up checks
 - monitoring holding furnace operations
 - planning and organising matte supply to converter
 - positioning and rotating vessel/pot
 - collecting and measuring samples
 - discharging slag and matte
 - controlling main and secondary burner operations

Knowledge Evidence

The candidate must demonstrate knowledge in controlling molten metal in holding furnace/vessels through:

- applying standard operating procedures
- Identifying characteristics of molten metal (basic)
- identifying furnace components and function
- applying combustion principles
- identifying importance of flame patterns/flame impingement
- identifying potential dangers inherent in specific plant and equipment
- applying principles of holding vessel/furnace operation

Assessment Conditions

- An assessor of this unit must satisfy the requirements of the NVR/AQTF or their successors; and Industry regulations for certification and licensing; and,
- this unit must be assessed in the context of this sector's work environment; and,
- this unit must be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- assessment may be conducted in conjunction with the assessment of other Units of Competency; and,
- assessment must confirm consistent performance can be applied in a range of relevant workplace circumstances; and,
- assessors must demonstrate the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and through the minimum years of current* work experience specified below in an Industry sector relevant to the outcomes of the unit; or,
- where the assessor does not meet experience requirements a co-assessment or partnership arrangement must exist between the qualified assessor and an Industry subject matter expert. The Industry subject matter expert should hold the unit being assessed (or an equivalent unit) and/or demonstrate equivalence of skills and knowledge at the unit level. An Industry technical expert must also demonstrate skills and knowledge from the minimum years of current work experience specified below in the Industry sector, including time spent in roles related to the unit being assessed; and,
- assessor and Industry subject matter expert requirements differ depending on the Australian Qualifications Framework Level (AQF) of the qualification being assessed and/or Industry Sector as follows:

Industry sector	AQF** Level	Required assessor or Industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Construction	1	1 Year
	2	2 Years
Drilling, Coal Mining and Extractive (Quarrying)	3-6	3 Years
Metalliferous Mining and Civil	3-6	5 Years

Construction		
Other sectors	Where this Unit is being assessed outside of the Resources and Infrastructure Sectors assessor and/or Industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no Industry standard is specified should comply with any relevant regulation.	

*Assessors can demonstrate current work experience through employment within Industry in a role relevant to the outcomes of the Unit; or, for external assessors this can be demonstrated through exposure to Industry by conducting frequent site assessments across various locations.

**Where a unit is being delivered outside of a Qualification the first numeric character in the Unit code should be considered to indicate the AQF level

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