

1. Title	Verify the design of train bogies, gangways and couplers and perform design reviews
2. Code	EMRADE511A
3. Range	Apply the professional knowledge and techniques of mechanics to verify the design of train bogies, gangways and couplers and perform design reviews according to the design requirements and in matching with the overall train design.
4. Level	5
5. Credits	9
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Design requirements for train bogies, gangways and couplers to match with the overall train design</p> <ul style="list-style-type: none"> ◆ Understand the design requirements for train bogies, gangways and couplers and master the key points. The equipment includes: <ul style="list-style-type: none"> • Power car bogies • Trailer car bogies • Gangways • Automatic couplers • Bar couplers ◆ Master the key points of the overall train design and the techniques of coordinating the design of train bogies, gangways and couplers ◆ Know about data calculations related to mechanics of materials <p>6.2 Methods and procedures of verifying the design of train bogies, gangways and couplers and performing design reviews</p> <ul style="list-style-type: none"> ◆ Verify the design of power car bogies and trailer car bogies according to the design requirements for train bogies and the overall design requirements for the train transmission and suspension system ◆ Verify the design of power car bogies and trailer car bogies according to their design requirements and the requirements for the overall design of train motion ◆ Verify the design of gangways according to mechanics and the design requirements for mechanical locking ◆ Verify the design of gangways according to the design requirements for the interior of train compartment ◆ Verify the design of gangways according to the requirements for the overall design of train motion ◆ Verify the design of automatic couplers according to mechanics and the design requirements for mechanical locking ◆ Verify the design of lever couplers according to mechanics and the design requirements for mechanical locking ◆ Verify the design of train couplers according to the requirements for the overall design of train motion

	<ul style="list-style-type: none"> ◆ Review comprehensively the design of train bogies, gangways and couplers according to the requirements for the overall train design ◆ Consider the safety, reliability, comfort, environmental protection and efficiency of trains during design reviews
6.3	<p>Professionalism in verifying and reviewing the design of train bogies, gangways and couplers</p> <ul style="list-style-type: none"> ◆ Verify the design of train bogies, gangways and couplers and perform design reviews according to the standards and requirements for work safety, health, environmental protection and quality management of railway works ◆ Understand the safety guidelines as required by the law and codes of practice in verifying and reviewing the design of train bogies, gangways and couplers
7. Assessment Criteria	<p>The integrated outcome requirement of this unit of competency is:</p> <ul style="list-style-type: none"> (i) Capable to verify the design of power car bogies efficiently according to relevant design standards; (ii) Capable to verify the design of gangways efficiently according to relevant design standards; (iii) Capable to verify the design of automatic couplers efficiently according to relevant design standards; and (iv) Capable to review the overall design of power car bogies, gangways and automatic couplers efficiently according to the standards complying with the overall train design.
8. Remarks	<p>The credit value of this unit of competency is set on the presumption that the person already possesses professional knowledge of mechanical engineering and is familiar with the working principles of train bogies, gangways and couplers.</p>