

**SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)**

In accordance with Regulation 24(c) of the National Standards Bodies Regulations of 28 March 1998, the Standards Generating Body (SGB) for

Manufacturing and Assembly Processes

registered by Organising Field 06 – Manufacturing, Engineering and Technology, publishes the following Unit Standards for public comment.

This notice contains the titles, fields, sub-fields, NQF level and credits of the Unit Standards. The full Unit Standards can be accessed via the SAQA web-site at www.saqqa.org.za. Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, SAQA House, 1067 Arcadia Street, Hatfield, Pretoria.

Comment on the Unit Standards should reach SAQA at the address below and **no later than 29 June 2009**. All correspondence should be marked **Standards Setting – SGB for Manufacturing and Assembly Processes** and addressed to

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ACTING DIRECTOR: STANDARDS SETTING AND DEVELOPMENT



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Assemble switchgear assembly

SAQA US ID	UNIT STANDARD TITLE		
264997	Assemble switchgear assembly		
ORIGINATOR	PROVIDER		
SGB Manufacturing and Assembly Processes			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Manufacturing and Assembly		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	12

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Plan and prepare for switchgear enclosure assembly.

SPECIFIC OUTCOME 2

Assemble enclosures.

SPECIFIC OUTCOME 3

Fit switchgear components.

SPECIFIC OUTCOME 4

Identify and consider switchgear assembly access and termination requirements.

SPECIFIC OUTCOME 5

Communicate switchgear assembly fabrication difficulties.

SPECIFIC OUTCOME 6

Verify correctness of switchgear assembly.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

None



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Install earthing systems and shrouding on switchgear assembly***

SAQA US ID		UNIT STANDARD TITLE	
264999		Install earthing systems and shrouding on switchgear assembly	
ORIGINATOR		PROVIDER	
SGB Manufacturing and Assembly Processes			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Manufacturing and Assembly	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	4

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate knowledge of the regulations applicable to earthing and shrouding of switchgear assembly.

SPECIFIC OUTCOME 2

Install switchgear assembly earthing systems.

SPECIFIC OUTCOME 3

Fabricate and install switchgear assembly shrouding.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

None



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Fabricate and install busbars

SAQA US ID	UNIT STANDARD TITLE		
265002	Fabricate and install busbars		
ORIGINATOR		PROVIDER	
SGB Manufacturing and Assembly Processes			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Manufacturing and Assembly	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	8

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Make single bends in busbars as per mechanical drawings.

SPECIFIC OUTCOME 2

Achieve specified busbar sets.

SPECIFIC OUTCOME 3

Punch or drill holes in busbars.

SPECIFIC OUTCOME 4

Install busbars and bracing systems.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

None



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:*Demonstrate an understanding of switchgear assembly*

SAQA US ID		UNIT STANDARD TITLE	
265005		Demonstrate an understanding of switchgear assembly	
ORIGINATOR		PROVIDER	
SGB Manufacturing and Assembly Processes			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Manufacturing and Assembly	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate knowledge of the principles of switchgear assembly.

SPECIFIC OUTCOME 2

Demonstrate an understanding of the application of switchgear assembly in industry.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

None



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UNIT STANDARD:

Demonstrate knowledge of legislation and standards relevant to the switchgear assembly industry

SAQA US ID	UNIT STANDARD TITLE		
265007	Demonstrate knowledge of legislation and standards relevant to the switchgear assembly industry		
ORIGINATOR		PROVIDER	
SGB Manufacturing and Assembly Processes			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Manufacturing and Assembly	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	3

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate awareness and knowledge of regulations relevant to the manufacture of switchgear assemblies.

SPECIFIC OUTCOME 2

Demonstrate knowledge of the application of regulations relevant to the manufacture of switchgear assemblies.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

None



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Modify installed switchgear assemblies***

SAQA US ID		UNIT STANDARD TITLE	
265008		Modify installed switchgear assemblies	
ORIGINATOR		PROVIDER	
SGB Manufacturing and Assembly Processes			
FIELD		SUBFIELD	
6 - Manufacturing, Engineering and Technology		Manufacturing and Assembly	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	4

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Isolate switchgear assemblies.

SPECIFIC OUTCOME 2

Modify and test switchgear assemblies.

SPECIFIC OUTCOME 3

Re-power switchgear assemblies.

SPECIFIC OUTCOME 4

Document switchgear assembly modifications.

SPECIFIC OUTCOME 5

Communicate switchgear assembly fabrication difficulties.

SPECIFIC OUTCOME 6

Verify correctness of switchgear assembly.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

None



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Perform production testing of switchgear assembly

SAQA US ID	UNIT STANDARD TITLE		
265014	Perform production testing of switchgear assembly		
ORIGINATOR	PROVIDER		
SGB Manufacturing and Assembly Processes			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Manufacturing and Assembly		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	4

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Demonstrate knowledge of switchgear assembly testing.

SPECIFIC OUTCOME 2

Prepare to test electric switchgear assemblies.

SPECIFIC OUTCOME 3

Test electric switchgear assemblies.

SPECIFIC OUTCOME 4

Check and set protection devices.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

None



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:***Demonstrate knowledge of busbar design***

SAQA US ID	UNIT STANDARD TITLE		
265015	Demonstrate knowledge of busbar design		
ORIGINATOR	PROVIDER		
SGB Manufacturing and Assembly Processes			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Manufacturing and Assembly		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 4	4

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Determine switchgear assembly busbar sizes.

SPECIFIC OUTCOME 2

Describe methods of mounting and spacing busbars.

SPECIFIC OUTCOME 3

Explain the effects of temperature and fault levels on busbars.

SPECIFIC OUTCOME 4

Describe parallel busbar effects.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

None



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

UNIT STANDARD:

Demonstrate knowledge of switchgear assembly components and their representation on drawings

SAQA US ID	UNIT STANDARD TITLE		
265034	Demonstrate knowledge of switchgear assembly components and their representation on drawings		
ORIGINATOR	PROVIDER		
SGB Manufacturing and Assembly Processes			
FIELD	SUBFIELD		
6 - Manufacturing, Engineering and Technology	Manufacturing and Assembly		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	8

This unit standard does not replace any other unit standard and is not replaced by another unit standard.

SPECIFIC OUTCOME 1

Describe and identify switchgear components.

SPECIFIC OUTCOME 2

Describe and identify cable types.

SPECIFIC OUTCOME 3

Describe and identify busbars and busbar coatings.

SPECIFIC OUTCOME 4

Demonstrate knowledge of switchgear assembly drawings.

SPECIFIC OUTCOME 5

Interpret switchgear symbols and variables.

QUALIFICATIONS UTILISING THIS UNIT STANDARD

None