



# A message from Technical Standards



## CitiPower/Powercor Technical Standards Update for July 2019

Please ensure that this information is passed on to all employees and contractors with in your organisation.

The following updates are relevant to all technical, field employees and contractors undertaking design, construction and maintenance activities on the CitiPower and Powercor networks.

Technical Standards are available on our [website](#).

*All new design and construction proposals commenced after the 12 September 2019 are required to comply with these updates.*

If you have further questions, please contact the relevant team member associated with the published documents.

Standard Category	Technical Standard	Description	Overview	Impacted Key Stakeholder/s
<a href="#">D - General</a>	<a href="#">DE101</a>	Distribution Construction Standard - Connectors Shell-Fired	Standards updated to include Ampact part numbers, SAP numbers & cartridge colours and also remove the use of aluminium Ampacts with 7/2.5 AAC & 7/3.00 AAC. <b>Contact: Darren Martini - (03) 9683 4738</b>	<b>DESIGN CONSTRUCTION MAINTENANCE</b>
	<a href="#">DE251</a>	Distribution Construction Standard - Connectors Assembly - Gas Switch Leads		
	<a href="#">DE306-361</a>	Distribution Material Standard - D Loops, Clamps & IPC		

<b>Standard Category</b>	<b>Technical Standard</b>	<b>Description</b>	<b>Overview</b>	<b>Impacted Key Stakeholder/s</b>
<a href="#">E - Overhead</a>	<a href="#">EM151</a>	Distribution Construction Standard - Remote Control Gas Switch, Strain Assembly - Wood Pole	Standards updated to include current ratings in gas switch selection variables and permitted the use of SL27 crossarms with gas switches. <b>Contact: Darren Martini - (03) 9683 4738</b>	<b>DESIGN CONSTRUCTION MAINTENANCE</b>
	<a href="#">EM155</a>	Distribution Construction Standard - Remote Control Gas Switch, Buckarm Assembly - Wood Pole		
	<a href="#">EM161</a>	Distribution Construction Standard - Remote Control Gas Switch, Strain Assembly - Concrete Pole		
	<a href="#">EM165</a>	Distribution Construction Standard - Remote Control Gas Switch, Buckarm Assembly - Concrete Pole		
<a href="#">G - Underground</a>	<a href="#">EF401-566</a>	Distribution Material Standard - Preformed Ties, Armour Rods, Dampers & Helicals	Standards updated to replace 3/2.75 SC/GZ armour rods with 3/2.75 SC/GZ subsetted armour rods. <b>Contact: Dean Bongetti - (03) 9683 2133</b>	<b>DESIGN CONSTRUCTION</b>
	<a href="#">EH Series</a>	Distribution Construction Standard - SWER Structures		
	<a href="#">EI Series</a>	Distribution Construction Standard - Single Phase Structures		
	<a href="#">EJ Series</a>	Distribution Construction Standard - Three Phase Structures	Standards updated to align soil bearing capacity classification with table 2 in EG041. <b>Contact: Darren Martini (03) 9683 4738 Release Date 12 Jul 19</b>	<b>DESIGN CONSTRUCTION</b>
	<a href="#">GL041</a>	Distribution Construction Standard - Kiosk Substations - Cable Entry and Foundation		
	<a href="#">GL251</a>	Distribution Construction Standard - Kiosk Assembly - 22kV Triple Switch	Standards updated to include new HV switching cabinet box foundation. <b>Contact: Darren Martini (03) 9683 4738 Release Date 12 Jul 19</b>	<b>DESIGN CONSTRUCTION MAINTENANCE</b>
	<a href="#">GL052</a>	Distribution Construction Standard - Kiosk Substations - HV Outdoor Switchgear Cabinets		
	<a href="#">GL501-711</a>	Distribution Material Standard - Kiosk Substations		

# DE101, DE251 & DE361 - Connectors

## Key changes\*

Release date: 09 August 2019

\*Please refer to official standard for details

### What has changed?:

- Technical Standards DE101, DE251 & DE361 (Connectors), have been updated with the following changes:
  - Tables 1 & 2 in DE101 have been updated to include Ampact part numbers, SAP numbers & cartridge colours for the tin plated copper switch lugs.
  - Removed the use of aluminum Ampacts with 7/2.5 AAC & 7/3.00 AAC in DE361, as Ampacts cannot be used on small aluminium conductor

### Why?:

- The standards has been updated to remove errors and provide clarity to ensure correct connectors are selected

ALUMINIUM conductor	Lug, Switch, Shell-Fired Connectors, Straight (tin plated copper) 279035-1, SAP 351296
6/1/2.5ACSR	TE Ampact 600411, SAP 351266, use blue cartridge
6/1/3.00ACSR	TE Ampact 600458, SAP 351268, use blue cartridge
7/3.75AAC & 6/1/3.75ACSR	TE Ampact 600459, SAP 351269, use blue cartridge
7/4.75AAC & 6/4.75, 7/1.60ACSR	TE Ampact 600466, SAP 351270, use blue cartridge
19/3.25AAC	TE Ampact 602046-7, SAP 351275, use blue cartridge
19/3.75AAC	TE Ampact 602001, SAP 351271, use yellow cartridge
19/4.75AAC	TE Ampact 1-602031-6, SAP 354928, use yellow cartridge
37/3.75AAC	TE Ampact 602121-9, SAP 351289, use yellow cartridge

Table 1 – Shell-Fired Connector for Lug, Switch, Straight (tin plated copper) to Aluminium Conductor



Figure 2 –Lug, Switch, Shell-Fired Connectors, Straight (tin plated copper)

COPPER conductor	Lug, Switch, Shell-Fired Connectors, Straight (tin plated copper) 279035-1, SAP 351296
150mm <sup>2</sup>	TE Ampact 275187-2, Sap 354954, use white cartridge
19/3.00	TE Ampact 275187-2, Sap 354954, use white cartridge
120mm <sup>2</sup>	TE Ampact 275187-2, Sap 354954, use white cartridge

Table 2 – Shell-Fired Connector for Lug, Switch, Straight (tin plated copper) to Copper Conductor

Updated tables in DE101

# EF, EH, EI & EJ series – Armour Rods

## Key changes\*

Release date: 09 Aug 2019


*\*Please refer to official standard for details*

### What has changed?:

- Several Technical Standards in the EH, EI & EJ series have been updated to replace EF481 A (armour rods for 3/2.75 SC/GZ conductor ) with EF482 A (**subsetting** armour rods for 3/2.75 SC/GZ conductor).
- Component assemblies with the EH, EI & EJ Technical Standards series have been updated to include EF482
- EF481 has been updated to remove EF481A (armour rods for 3/2.75 SC/GZ conductor)

### Why?:

- The change has occurred due to feedback from Material Coordinators who advised that 3/2.75 SC/GZ armour rods were being ordered rather than 3/2.75 SC/GZ **subsetting** armour rods. Subsetting armour rods were introduced into the standards several years ago to improve field installation.

No.	Standard	Description
1	EB401	Pole Assembly, Wood
2	EE101	Crossarm Assembly – HV Intermediate – Wood Pole
3	EF101	HV Line Insulator Assembly – Wood Pole
4	EF401	Tie, Preformed, Top
5	EF481	Armour Rods
	EF482	Armour Rods, subsetting 
6	EF491	Spiral Vibration Dampers

Subsetting armour rods added to component assembly of standards

Table 3 – Component Assemblies

# EM151, 155, 161 & 165 Gas switches

## Key changes\*

Release date: 09 August 2019

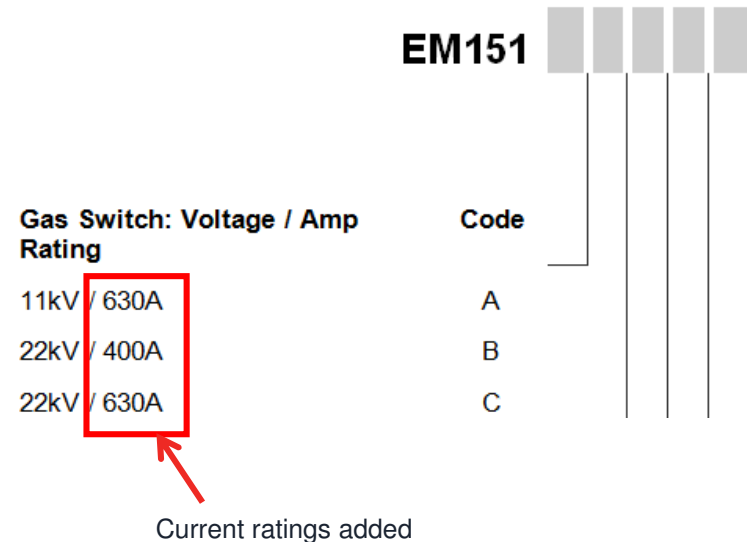
*\*Please refer to official standard for details*

### What has changed?:

- Technical Standards EM151, EM155, EM161 & EM165 (Gas switches) have been updated to include current rating in the variable selection codes
- Technical Standards EM151 & EM161 have also been updated to permit the use of SL27 crossarms with gas switches

### Why?:

- The change has occurred to improve the use of the standard and provide further guidance to ensure the correct gas switch and associated lead connections are selected for the required current rating



# GL041 & GL251 – Kiosk substations

## Key changes\*

Release date: 09 August 2019

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*\*Please refer to official standard for details*

### What has changed?

- Technical Standards GL041 and GL251 have been updated to align soil bearing capacity classification with table 2 in EG041

### Why?:

- The current technical standard refers to a kPa figure which is difficult to confirm on site. Table 2 in EG041 provides a field guide method of determining the soil bearing classification which has been used successfully with stay anchors for many years

Term	Shear Strength, Cu (kPa)		Field Guide to Consistency (In Unsaturated State)
	Unsaturated	Saturated	
Very Soft	≤12	≤6	Exudes between fingers when squeezed in hand
Soft	12-25	6-12	Can be moulded by light finger pressure
Firm	25-50	12-25	Can be moulded by strong finger pressure
Stiff	50-100	25-50	Cannot be moulded by fingers. Can be indented by thumb.
Very Stiff	100-200	50-100	Can be indented by thumb nail.
Hard	200-400	100-200	Can be indented with difficulty by thumb nail.

Table 2 – Typical Properties of Cohesive Soils

# GL052 & GL501-711 – HV RMU Switching Cabinets Box Foundation

## Key changes\*

Release date: 09 August 2019

*\*Please refer to official standard for details*

### What has changed?:

- Technical Standards GL052 & GL501-711 have been updated to include 2 new box foundations for HV switching cabinets
- One foundation has been developed for the 3 or 4 way HV RMU switching cabinet and another for a 5 way HV RMU switching cabinet
- Unistrut elephant truck support brackets will be provided with both foundations
- Both foundations will be manufactured from precast concrete and be supplied by 2 approved manufacturers
- New standard construction drawings have been developed for both foundations:
  - SCD02/GL052/1/1 - 3 or 4 way HV RMU switching cabinet
  - SCD02/GL052/1/2 - 5 way HV RMU switching cabinet
- No changes have been made to the HV switching cabinets

### Why?:

- Changes to the existing HV switching cabinet foundations have occurred due to the Connewarre HV switching cabinet incident. While the existing slab foundation specified in the Technical Standards was suitable, there was an opportunity to eliminate any potential for future incidents by modifying the foundation.

