



PATTON & COOKE CO.

25 kV, 400 Amp CABLE COUPLERS

25 kV CABLE COUPLER & COUPLING SYSTEM



In designing a new cable coupler for 25 kV operation, Patton & Cooke determined that the coupler had to operate efficiently at this high voltage while still being maneuverable in the field. First a new idea then a new product evolved - the **25 kV Cable Coupler & Coupling System**. The system incorporates cable couplers, support skids with hoisting mechanisms, accessories, termination kits and tools- all the equipment necessary for a complete and manageable 25 kV cable connection.

Features

All couplers have the same contact structure

Couplers mate with the aid of individual main phase, ground and pilot connecting pins.

Couplers equipped with strain relief entrance fittings

All parts, including live parts, are individually replaceable

Continuous ground shield surrounds all phase tubes

Visible external ground ties

'O' ring seals between all mating surfaces

Unique hexagonal shape

Entire coupler housing is sand cast and heat treated

Molded phase & ground insulator
Insulators are vacuum cast of silica sand filled thermal setting resin

Standard couplers are powder coated red. Other colours are available upon request.

Two types of coupler skids are available

Skid is equipped with hoisting mechanism

Aluminum cover and live end cover are available as options.

Benefits

- coupler gender is always known, eliminating cable laying errors in the field.
- reduces inventory.
- minimizes installation time.
- allows couplers to be connected easily and safely.
- protects termination from damage resulting from cable strain.
- seals against entry of dirt and moisture.
- convenience of front end replaceable live parts.
- reduces downtime.
- significantly lowers replacement costs.
- limits any cable insulation breakdown to ground faults.
- provides positive connection of ground through all metallic components.
- ensures personnel safety.
- Ensures coupler integrity against ingress of dirt and moisture.
- Aids in indexing couplers for mating.
- Helps "lock" coupler in closing mechanism.
- highly resistant to corrosion and physical damage.
- provides high dielectric strength.
- Solid casting provides high dielectric and physical strength.
- coupler connection is highly visible in the field.
- protective coating extends the life of the coupler.
- couplers are elevated off the ground and protected from the abrasive mine environment.
- coupler connection is more visible to heavy equipment.
- reduces possibility of moisture ingress.
- reduces manual lifting, increasing personnel safety.
- allows couplers to be moved easily.
- prevents the entry of dirt and moisture when couplers are unplugged.
- protects contacts from damage.
- provides personnel safety.



Meeting your high voltage electrical equipment needs

SUPERIOR



First coupler, catalog number C250F2001x, being loaded onto skid, catalog number STA-027, using the hoist mechanism. The coupler is secure once it is placed in the "hex shaped" saddle.



The second, epoxy coated red, coupler being hoisted onto the skid using the specially designed cable harness. The cable harness allows easy alignment of couplers.



Coupler pair mated together using the phase, ground and pilot connecting pins.



Complete coupler system featuring:

- Unique, "rack and pinion" driven closing tool. Use of the closing tool permits easy cable coupling.
- Secondary strain relief clamps which offer additional grip on cable jacket. The cable is secure on the skid and cable strain is virtually eliminated.
- An onboard lockable tool box provides convenient and safe storage for tools and spare parts.

TECHNOLOGY

25 kV 400 Amp COUPLER CATALOG NUMBERS

Contact Structure: 3 Power + 3 Ground + 2 Pilot

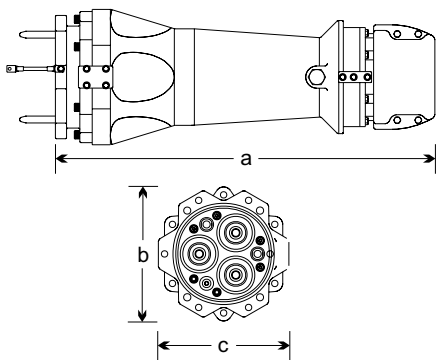
Illustration (not to scale)	Description	Patton & Cooke Catalog Number	Dimensions			Weight
			a	b	c	
	Cable Mount, Red Powder Coating, Outside Cable Diameter Range: 70.1 - 152.4 mm 2.76 - 6.00"	C250F2001x	876 mm 34 1/2"	313 mm 12 5/16"	313 mm 12 5/16"	48 kg 105 lb

TABLE A: 25 kV 400 Amp COUPLER CATALOG NUMBER SUFFIXES

Max. Cable Size SHD-GC - 25 kV (mm ²)	(AWG)	x - Catalog Number Suffix	Max. Cable Size SHD-GC - 25 kV (mm ²)	(AWG)	x - Catalog Number Suffix
54	1/0	H	178	350 MCM	O
67	2/0	J	203	400 MCM	P
85	3/0	K	228	450 MCM	Q
107	4/0	L	254	500 MCM	R
127	250 MCM	M	279	550 MCM	S
152	300 MCM	N	305	600 MCM	T

ORDERING PROCEDURE:

- Determine the conductor size required and substitute appropriate code from Table A for "x" in the catalog number.
- Determine the outside cable diameter and provide this information on the order.
- From the number of mated coupler pairs, determine the number of main phase, ground and pilot connecting pins required. Select the catalog numbers of each from Table B below.
- Review the products available in the accessories section to determine what items are required for the installation.

Example: one mated coupler pair, 250 MCM, 89 mm (3.50") diameter cable.

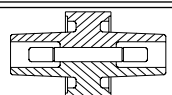
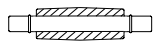

Items required,

Catalog No	Description	Qty
C250F2001M	Receptacle	2
C250F3001	Main Phase Connecting Pin	3
C250F3002	Ground Phase Connecting Pin	3
CON-109	Pilot Phase Connecting Pin	2

SELECTION REMINDERS:

- The coupler gender is female.
- Potting compound is required for 25 kV couplers. Approximately 4 x 3000 g kits, P&C catalog no OS-J563, are required to fill each cable mounted coupler.
- Coupler may accept a maximum number of the following connecting pins:
 - 3 - main phase
 - 1 - ground pin (casing-to-casing)
 - 2 - isolated ground pins
 - 6 - isolated pilot pins

TABLE B: 25 kV 400 Amp COUPLER CONNECTING PINS

Illustration (not to scale)	Description	Max. Cable Size SHD-GC - 25 kV (mm ²)	(AWG)	Patton & Cooke Catalog Number	Qty per Mated Coupler Pair
	Main Phase Connecting Pin (copper encapsulated in silicon)	305	600 MCM	C250F3001	3
	Ground Connecting Pin (copper encapsulated in rubber)	107	4/0	C250F3002	3
	Pilot Connecting Pin (copper)	34	#2	CON-109	2

Patton & Cooke 25 kV couplers are designed, tested and manufactured to meet the following standards:

- Australian Standard AS1300, AS1824.1-1985.
- IEEE 48-1990.

25 kV 400 Amp COUPLER ACCESSORIES

TERMINATION KIT

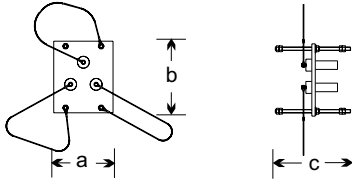
This kit includes all material necessary to terminate one end of a three phase 25 kV cable.

Description	Patton & Cooke Catalog Number
3 conductor, #1/0 to 600 MCM AWG	11Y-009

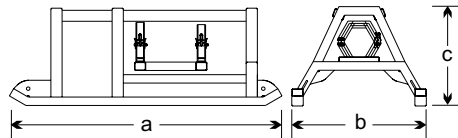
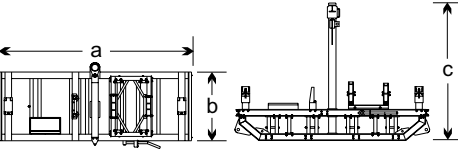
POTTING COMPOUND

Description	Patton & Cooke Catalog Number
Two part. Cold pour mix, 750 g container.	OS-J563-750
Two part. Cold pour mix, 3 000 g container.	OS-J563

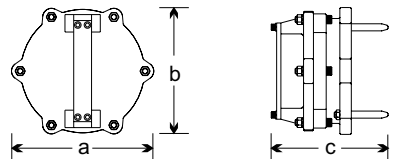
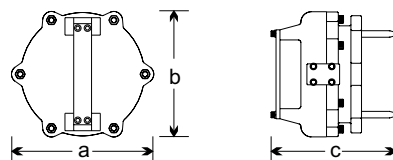
COUPLER TOOLS

Illustration (not to scale)	Description	Patton & Cooke Catalog Number	Dimensions			Weight
			a	b	c	
	Phase Insulator Pulling Tool	C250F3009	222 mm 8 3/4"	270 mm 10 5/8"	267 mm 10 1/2"	8 kg 17 lb

COUPLER SKIDS

Illustration (not to scale)	Description	Patton & Cooke Catalog Number	Dimensions			Weight
			a	b	c	
	Aluminum Skid equipped with hinged, removable rollover protection	STA-033	2490 mm 98 "	1194 mm 47 "	890 mm 35 "	191 kg 420 lb
	Galvanized Steel Skid equipped with coupler hoisting mechanism and cable strain relief devices.	STA-027	2997 mm 118 "	1067 mm 42 "	2134 mm 84 "	800 kg 1760 lb

COUPLER COVERS

Illustration (not to scale)	Description	Patton & Cooke Catalog Number	Dimensions			Weight
			a	b	c	
	Cover, Aluminum cast equipped with handle	H-014	279 mm 11 "	279 mm 11 "	178 mm 7 "	8 kg 18 lb
	Live End Cover, Aluminum cast equipped with diode and handle	11G-025	279 mm 11 "	279 mm 11 "	191 mm 7.5 "	15 kg 33 lb

PATTON & COOKE ALSO MANUFACTURES JUNCTION AND SPLICE BOXES, CABLE HANDLING ACCESSORIES AND GROUND FAULT RELAYS.

FOR FURTHER INFORMATION:

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