POWER KABEL INC.

COPPERWELD + COPPER CONDUCTORS (CCC)

APPLICATIONS & FEATURES

Provides an efficient and economical overhead line construction.CCC wires are typically used for power conductors, overhead communication lines (including telephone, telegraph and signal lines), overhead ground wires, guy wires, aerial cable messenger, and catenary cables for railroad electrification. Copperweld offers a wide range of CCC wire strengths
and conductive options, permitting the selection of conductors which will meet the requirements for practically all types of overhead line designs.

CONSTRUCTION

Comprised of a copper cladding metallurgically bonded to a steel core, Copperweld® wire combines the strength of steel with the conductivity and corrosion-resistance of copper. Standard copper cladding thicknesses result in 21%, 30%, or 40% IACS composite conductivity. The core steel employed in the composite depends specifically upon the application requirement for mechanical properties and typically ranges from AISI 1006 to AISI 1060.

Conductor	Resistance-Ohms per Conductor per mile				Reactance per Conductor per mile One Foot Spacing		Geometric Mean Radius at 60 Hz	Approx. Ampacity† at 60 Hz
	ra at 25°C (77°F) Small Currents		ra 50ºC (122ºF) Current-Approx. 75% of Ampacity					
	D.C.	60 HZ	D.C.	60 HZ	xa Inductive Ω at 60 Hz	x'a Capacitive MΩ at 60 Hz	FEET	AMPS
4/0 E	0.274	0.290	0.300	0.326	0.493	0.1088	0.01711	480
4/0 EK	0.274	0.279	0.300	0.308	0.481	0.1109	0.01903	490
2P	0.871	0.909	0.952	1.040	0.643	0.1172	0.00501	250
2N	0.871	0.906	0.952	1.035	0.627	0.1205	0.00568	240
2K	0.871	0.902	0.952	1.028	0.612	0.1232	0.00644	240
2J	0.871	0.899	0.952	1.022	0.598	0.1255	0.00727	230
2A	0.869	0.882	0.95	0.979	0.592	0.1241	0.00763	240
2G	0.871	0.896	0.952	1.016	0.587	0.1275	0.0079	230
2F	0.871	0.885	0.952	0.985	0.575	0.1292	0.00873	230
3P	1.098	1.136	1.2	1.296	0.657	0.1207	0.00445	220
3N	1.098	1.133	1.2	1.289	0.641	0.1239	0.00506	210
3K	1.098	1.129	1.2	1.281	0.626	0.1266	0.00574	210
3J	1.098	1.126	1.2	1.275	0.611	0.1289	0.00648	200
3A	1.096	1.109	1.198	1.229	0.606	0.1275	0.00679	210
4P	1.385	1.423	1.514	1.616	0.671	0.1241	0.00397	190
4N	1.385	1.42	1.514	1.61	0.655	0.1274	0.00451	180
4D	1.382	1.399	1.511	1.542	0.628	0.1256	0.00566	190
4A	1.382	1.395	1.511	1.545	0.62	0.131	0.00604	180
5P	1.747	1.785	1.909	2.02	0.685	0.1275	0.00353	160
5D	1.742	1.759	1.905	1.939	0.642	0.129	0.00504	160
5A	1.742	1.755	1.905	1.941	0.634	0.1345	0.00538	160
6D	2.2	2.22	2.4	2.44	0.656	0.1325	0.00449	140
6A	2.2	2.21	2.4	2.44	0.648	0.1379	0.00479	140
6C	2.2	2.21	2.4	2.44	0.651	0.1386	0.00469	130
7D	2.77	2.79	3.03	3.07	0.67	0.1359	0.004	120
7A	2.77	2.78	3.03	3.07	0.658	0.1388	0.00441	120
8D	3.49	3.51	3.82	3.86	0.684	0.1393	0.00356	110
8A	3.49	3.51	3.82	3.87	0.672	0.1422	0.00394	100
8C	3.49	3.51	3.82	3.86	0.679	0.1453	0.00373	100

* Resistance at 50ºC total temperature, based on ambient of 25ºC plus 25ºC rise due to heating effect of current. The approximate magnitude of current necessary to produce the 25ºC rise is 75% of the "Approximate Ampacity at 60 Hertz"

† Based on a conductor temperature of 75ºC.and an ambient of 25ºC