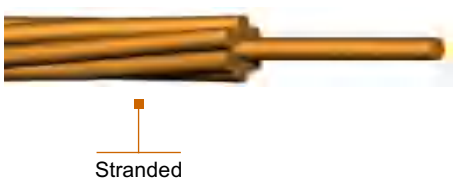
HDBC

Hard-drawn Bare Copper Conductor(HDBC)

Bare Copper Solid or Stranded Conductor (Hard Drawn)



Detail Description or Construction

Solid or Concentric stranded hard drawn bare copper conductor.

Application

For aerial power transmission and distribution line, circuit ground connections as well as machinery and equipment grounding.

Standards / Testing Specifications

- Bare conductors have been designed according to ASTM B1, B8 specifications and requirements of the latest version of the National Electrical Code (NEC).

Marking

Indent and embossed mark are printed on solid conductor o central wire for stranded conductor, if requested.

Installation

Hard drawn copper conductor can be installed in air. It is recommended that the installation instructions indicated by the Local Electric Code, or any equivalent, be followed, so that the safeguarding of persons and the integrity of the product will not be affected by deficiencies in the installation.

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SOLID								
Size	Section		Diameter DC	Resistance @ 20°C	Minimum Wire Elongation	Minimum Tensile Strength		Total Weight
AWG	Cmils	mm²	mm	Ω / km	%	MPA	kg / mm²	kg / km
1	83,690	42.41	7.348	0.423	2.2	385	39.3	377
2	66,360	33.62	6.543	0.533	2.0	395	40.3	299
4	41,740	21.15	5.189	0.848	1.7	415	42.3	188
6	26,240	13.30	4.115	1.349	1.4	430	43.8	118
8	16,510	8.37	3.264	2.143	1.3	440	44.9	74
10	10,380	5.26	2.588	3.409	1.2	445	45.4	47
12	6,530	3.31	2.052	5.419	1.1	455	46.4	29
14	4,110	2.08	1.628	8.610	1.0	455	46.4	19
16	2,580	1.31	1.290	13.715	1.0	460	46.9	12
18	1,620	0.82	1.024	21.843	1.0	460	46.9	7

For current ampacity details please refer to NEC tables 310-21.

CLASS "A"										
Size	Section		Number Of Wires	Wire Diameter	Conductor Diameter	Resistance DC @ 20°C	Minimum Wire Elongation Before Stranding	Minimum Tensile Strenght	Minimum Tensile Strenght After Stranding	Total Weight
AWG/MCM	Cmils	mm²		mm	mm	Ω / km	%	kg / mm²	kg	kg / km
4	41,740	21.1	7	1.96	5.88	0.865	1.1	46.4	883	192
2	66,360	33.6	7	2.47	7.42	0.544	1.2	45.4	1,373	305
1/0	105,600	53.5	7	3.12	9.36	0.342	1.3	44.9	2,161	485
2/0	133,100	67.4	7	3.50	10.5	0.271	1.3	44.4	2,692	611
4/0	211,600	107.2	7	4.42	13.2	0.171	1.6	42.8	4,133	972
250	250,000	126.7	19	2.91	14.6	0.144	1.2	45.4	5,173	1,149
300	300,000	152.0	19	3.19	16.0	0.120	1.3	44.9	6,138	1,379
350	350,000	177.3	19	3.45	17.2	0.103	1.3	44.4	7,080	1,609
400	400,000	202.7	19	3.69	18.4	0.090	1.4	43.8	7,998	1,838
500	500,000	253.4	37	2.95	20.7	0.072	1.3	44.9	10,230	2,298
600	600,000	304.0	37	3.23	22.6	0.060	1.3	44.9	12,277	2,758
700	700,000	354.7	61	2.72	24.5	0.052	1.2	45.4	14,485	3,216
750	750,000	380.0	61	2.82	25.3	0.048	1.2	45.4	15,520	3,447
800	800,000	405.4	61	2.91	26.2	0.045	1.3	44.9	16,369	3,676
900	900,000	456.0	61	3.09	27.8	0.040	1.3	44.9	18,415	4,136
1000	1,000,000	506.7	61	3.25	29.3	0.036	1.3	44.9	20,461	4,596

For current ampacity details please refer to NEC tables 310-21.

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CLASS "B"										
Size	Section		Number Of Wires	Wire Diameter	Conductor Diameter	Resistance DC @ 20°C	Minimum Wire Elongation Before Stranding	Minimum Tensile Strenght	Minimum Tensile Strenght After Stranding	Total Weight
AWG/MCM	Cmils	mm²		mm	mm	Ω / km	%	kg / mm²	kg	kg / km
6	26,240	13.3	7	1.56	4.67	1.38	1.0	46.4	555	121
4	41,740	21.1	7	1.96	5.88	0.865	1.1	46.4	883	192
2	66,360	33.6	7	2.47	7.42	0.544	1.2	45.4	1,373	305
1/0	105,600	53.5	19	1.89	9.47	0.342	1.1	46.4	2,234	485
2/0	133,100	67.4	19	2.13	10.6	0.271	1.1	45.9	2,785	611
4/0	211,600	107.2	19	2.68	13.4	0.171	1.2	45.4	4,379	972
250	250,000	126.7	37	2.09	14.6	0.144	1.1	45.9	5,231	1,149
300	300,000	152.0	37	2.29	16.0	0.120	1.1	45.9	6,278	1,379
350	350,000	177.3	37	2.47	17.3	0.103	1.2	45.4	7,243	1,609
400	400,000	202.7	37	2.64	18.5	0.090	1.2	45.4	8,277	1,838
500	500,000	253.4	37	2.95	20.7	0.072	1.3	44.9	10,230	2,298
600	600,000	304.0	61	2.52	22.7	0.060	1.2	45.4	12,416	2,758
700	700,000	354.7	61	2.72	24.5	0.052	1.2	45.4	14,485	3,216
750	750,000	380.0	61	2.82	25.3	0.048	1.2	45.4	15,520	3,447
800	800,000	405.4	61	2.91	26.2	0.045	1.3	44.9	16,369	3,676
900	900,000	456.0	61	3.09	27.8	0.040	1.3	44.9	18,415	4,136
1000	1,000,000	506.7	61	3.25	29.3	0.036	1.3	44.9	20,461	4,596

For current ampacity details please refer to NEC tables 310-21.

Nominal Sectional Area	Number & Diameter of Wire	Overall Diameter	Maximum Conductor Resistance @ 20°C	Breaking Strength	Allowable Ampacities in Free Air	Cable Weight (approx)	Standard Packing
mm²	No. / mm	mm	Ω / km	kgf	A	kg / km	m
10	7/1.35	4.05	1.8054	438	90	90	1,000/R
16	7/1.70	5.10	1.1385	694	125	143	1,000/R
25	7/2.14	6.42	0.7185	1,076	160	227	1,000/R
35	7/2.52	7.56	0.5181	1,459	200	314	1,000/R
50	7/3.02	9.06	0.3589	2,095	250	452	1,000/R
50	19/1.78	8.90	0.3825	2,021	250	428	1,000/R
70	19/2.14	10.70	0.2646	2,921	310	618	1,000/R
95	19/2.52	12.60	0.1918	3,961	380	858	1,000/R
120	19/2.85	14.25	0.1492	5,067	440	1,097	1,000/R
150	37/2.25	15.75	0.1238	6,289	510	1,334	1,000/R
185	37/2.52	17.64	0.0981	7,713	585	1,673	1,000/R
240	61/2.25	20.25	0.0752	10,369	700	2,200	1,000/R
300	61/2.52	22.68	0.0600	12,717	800	2,760	1,000/R
400	61/2.85	25.65	0.0469	16,266	900	3,350	1,000/R
500	61/3.20	28.80	0.0370	20,506	1,110	4,451	1,000/R

R = Packing in reel