

## Conductivity and Resistivity Values for Aluminum & Alloys

Material	Conductivity		Resistivity	Reference	Notes
	(% IACS)	(Siemens/m)	(Ohm-m)	(See Endnotes)	
<b>Aluminum</b>					
Pure	61.00	3.538E+07	2.826E-08	ECTM	
99.99%	64.94	3.767E+07	2.655E-08	CSNDT	
99.99%	64.94	3.767E+07	2.655E-08	ALASM	
Red X-8 Cond. Stress Relieved	29.00	1.682E+07	5.945E-08	CSNDT	
Red X-8 As Cast	26.00	1.508E+07	6.631E-08	CSNDT	
11S Cond. T3	40.00	2.320E+07	4.310E-08	CSNDT	
13	39.00	2.262E+07	4.421E-08	CSNDT	
14S Cond. "0"	50.00	2.900E+07	3.448E-08	CSNDT	
14S Cond. T6	40.00	2.320E+07	4.310E-08	CSNDT	
17S Cond. "0"	45.00	2.610E+07	3.831E-08	CSNDT	
17S Cond. T4	30.00	1.740E+07	5.747E-08	CSNDT	
18S Cond. "0"	50.00	2.900E+07	3.448E-08	CSNDT	
18S Cond. T61	40.00	2.320E+07	4.310E-08	CSNDT	
2S Cond. "0"	59.00	3.422E+07	2.922E-08	CSNDT	
2S Cond. H18	57.00	3.306E+07	3.025E-08	CSNDT	
24S Cond. "0"	50.00	2.900E+07	3.448E-08	CSNDT	
24S Cond. T4	30.00	1.740E+07	5.747E-08	CSNDT	
24S Cond. T6	40.00	2.320E+07	4.310E-08	CSNDT	
3S Cond. "0"	50.00	2.900E+07	3.448E-08	CSNDT	
3S Cond. H 12	42.00	2.436E+07	4.105E-08	CSNDT	
3S Cond. H 14	41.00	2.378E+07	4.205E-08	CSNDT	
3S Cond. H 18	40.00	2.320E+07	4.310E-08	CSNDT	
32S Cond. "0"	40.00	2.320E+07	4.310E-08	CSNDT	
32S Cond. T6	35.00	2.030E+07	4.926E-08	CSNDT	
40E	35.00	2.030E+07	4.926E-08	CSNDT	
43 (Annealed)	42.00	2.436E+07	4.105E-08	CSNDT	
43 As Cast	37.00	2.146E+07	4.660E-08	CSNDT	
A51S Cond. "0"	55.00	3.190E+07	3.135E-08	CSNDT	
A51S Cond. T4 and T6	45.00	2.610E+07	3.831E-08	CSNDT	
52S Cond. "0" and H 38	35.00	2.030E+07	4.926E-08	CSNDT	
53S Cond. "0"	45.00	2.610E+07	3.831E-08	CSNDT	
53S Cond. T4 and T6	40.00	2.320E+07	4.310E-08	CSNDT	
56S Cond. "0"	29.00	1.682E+07	5.945E-08	CSNDT	
56S Cond. H 38	27.00	1.566E+07	6.386E-08	CSNDT	
61S Cond. "0"	45.00	2.610E+07	3.831E-08	CSNDT	
61S Cond. T4 and T6	40.00	2.320E+07	4.310E-08	CSNDT	
75S Cond. T6	30.00	1.740E+07	5.747E-08	CSNDT	
85	28.00	1.624E+07	6.158E-08	CSNDT	
<b>Aluminum Allcast</b>					
As Cast	27.00	1.566E+07	6.386E-08	CSNDT	
Cond. Sol. H.T. & Stress Relieved	36.00	2.088E+07	4.789E-08	CSNDT	
Sol H.T. and Aged	30.00	1.740E+07	5.747E-08	CSNDT	
Stress Relieved	30.00	1.740E+07	5.747E-08	CSNDT	

<b>Aluminum Alloy (Wrought)</b>					
1050-O	61.30		2.810E-08	ALASM	
1060-O	62.00		2.780E-08	ALASM	
1060-H18	61.00		2.780E-08	ALASM	
1100	57.00 - 61.80	3.445E+07	2.903E-08	NDT Mag	
1100-O	59.00		2.920E-08	ALASM	
1100-H18	57.00		3.020E-08	ALASM	
1145-O	61.00		2.830E-08	ALASM	
1145-H18	60.00		2.830E-08	ALASM	
1199-O	64.50		2.670E-08	ALASM	
1350-O	61.80		2.790E-08	ALASM	
1350-Hx	61.00		2.820E-08	ALASM	
2011-T3	36.00 - 36.50	2.103E+07	4.756E-08	NDT Mag	
2011-T3 and T4	39.00		4.400E-08	ALASM	
2011-T8	45.00		3.800E-08	ALASM	
2014-F and -O	48.60 - 50.70	2.880E+07	3.473E-08	NDT Mag	
2014-O	50.00		3.400E-08	ALASM	
2014-T3 and -T4	32.50 - 34.80	1.952E+07	5.124E-08	NDT Mag	
2014-T3, T4, and T451	34.00		5.100E-08	ALASM	
2014-T6	38.00 - 39.70	2.253E+07	4.438E-08	NDT Mag	
2014-T6, T651, and T652	40.00		4.300E-08	ALASM	
2017-F	49.30 - 49.50	2.865E+07	3.490E-08	NDT Mag	
2017-O	50.00		3.500E-08	ALASM	
2017-T4	34.00		5.000E-08	ALASM	
2024-F	46.80 - 48.50	2.764E+07	3.618E-08	NDT Mag	
2024-O	50.00		3.400E-08	ALASM	
2024-T3	28.60 - 36.10	1.876E+07	5.330E-08	NDT Mag	
2024-T36	29.10 - 29.50	1.699E+07	5.884E-08	NDT Mag	
2024-T3, T36, T351, T361, and T4	30.00		5.700E-08	ALASM	
2024-T4	28.80 - 31.00	1.734E+07	5.766E-08	NDT Mag	
2024-T6, T81, T851, and T861	38.00		4.500E-08	ALASM	
2036-O	52.00		3.320E-08	ALASM	
2036-T4	41.00		4.210E-08	ALASM	
2048-T851	42.00		4.000E-08	ALASM	
2124-O	50.00		3.450E-08	ALASM	
2124-T851	39.00		4.421E-08	ALASM	resistivity converted from conductivity--
2127-T4	42.10 - 42.40	2.451E+07	4.081E-08	NDT Mag	
2218-T61	37.40	2.169E+07	4.610E-08	NDT Mag	
2218-T61	38.00		4.500E-08	ALASM	
2218-T72	40.00		4.300E-08	ALASM	
2219-O	44.00		3.900E-08	ALASM	
2219-T31, T37, and T351	28.00		6.200E-08	ALASM	
2219-T62, T81, T87, and T851	30.00		5.700E-08	ALASM	
2319-O	44.00		3.900E-08	ALASM	
2618	40.20	2.332E+07	4.289E-08	NDT Mag	
2618-T61	37.00		4.700E-08	ALASM	

3003-O	44.70 - 49.80	2.741E+07	3.649E-08	NDT Mag	
3003-O	50.00		3.400E-08	ALASM	
3003-H14 and -H12	37.80 - 51.50	2.590E+07	3.861E-08	NDT Mag	
3003-H12	42.00		4.100E-08	ALASM	
3003-H14	41.00		4.200E-08	ALASM	
3003-H18	40.00		4.300E-08	ALASM	
3003-H24 and -H28	37.80 - 47.50	2.474E+07	4.043E-08	NDT Mag	
3004	39.40 - 43.50	2.404E+07	4.160E-08	NDT Mag	
3004-O	42.00		4.100E-08	ALASM	
X3005-O	50.10 - 50.30	2.912E+07	3.435E-08	NDT Mag	
3105-O	45.00		3.830E-08	ALASM	
4032-O	40.00		4.310E-08	ALASM	
4032-T6	35.30 - 36.30	2.076E+07	4.816E-08	NDT Mag	
4032-T6	36.00		4.790E-08	ALASM	
4043-F	52.30 - 54.30	3.091E+07	3.235E-08	NDT Mag	
4043-O	42.00		4.100E-08	ALASM	
5005	52.30 - 52.80	3.048E+07	3.281E-08	NDT Mag	
5005-O and H38	52.00		3.320E-08	ALASM	
5050	48.30 - 49.80	2.845E+07	3.515E-08	NDT Mag	
5050-O and H38	50.00		3.400E-08	ALASM	
5052	33.60 - 37.60	2.065E+07	4.843E-08	NDT Mag	
5052-O and H38	35.00		4.930E-08	ALASM	
5056	28.10 - 29.80	1.679E+07	5.956E-08	NDT Mag	
5056-O	29.00		5.900E-08	ALASM	
5056-H38	27.00		6.400E-08	ALASM	
5083	29.00		5.950E-08	ALASM	
5086	31.00		5.600E-08	ALASM	
5154	30.50 - 32.80	1.836E+07	5.448E-08	NDT Mag	
5154	32.00		5.390E-08	ALASM	
5182	31.00		5.560E-08	ALASM	
5252	35.00		4.900E-08	ALASM	
5254	32.00		5.400E-08	ALASM	
5356-O	29.00		5.940E-08	ALASM	
5357	42.30 - 47.00	2.590E+07	3.861E-08	NDT Mag	
5454	34.00		5.100E-08	ALASM	
5456	29.00		5.950E-08	ALASM	
5457	46.00		3.750E-08	ALASM	
5652	35.00		4.900E-08	ALASM	
5657	54.00		3.200E-08	ALASM	
6005-T5	49.00		3.500E-08	ALASM	
6009-O	54.00		3.190E-08	ALASM	
6009-T4	44.00		3.920E-08	ALASM	
6009-T6	47.00		3.670E-08	ALASM	
6010-O	53.00		3.250E-08	ALASM	
6010-T4	39.00		4.420E-08	ALASM	
6010-T6	44.00		3.920E-08	ALASM	
6053	39.30 - 48.00	2.532E+07	3.950E-08	NDT Mag	

6061-F and -0	42.30 - 48.50	2.633E+07	3.798E-08	NDT Mag	
6061-O	47.00		3.700E-08	ALASM	
6061-T4	37.60 - 40.50	2.265E+07	4.415E-08	NDT Mag	
6061-T4	40.00		4.300E-08	ALASM	
6061-T6 and -T9	40.00 - 44.80	2.459E+07	4.066E-08	NDT Mag	
6061-T6	43.00		4.000E-08	ALASM	
6062-F	47.00 - 51.00	2.842E+07	3.519E-08	NDT Mag	
6062-T4	43.50 - 44.00	2.538E+07	3.941E-08	NDT Mag	
6062-T6	44.70 - 49.50	2.732E+07	3.661E-08	NDT Mag	
6063-O	58.00		3.000E-08	ALASM	
6063-T1	50.00		3.500E-08	ALASM	
6063-T5	55.00		3.200E-08	ALASM	
6063-T6 and T83	53.00		3.300E-08	ALASM	
6066-O	40.00		4.300E-08	ALASM	
6066-T6	37.00		4.700E-08	ALASM	
6070-T6	44.00		3.900E-08	ALASM	
6101-T6	57.00		3.020E-08	ALASM	
6101-T61	59.00		2.920E-08	ALASM	
6101-T63	58.00		2.970E-08	ALASM	
6101-T64	60.00		2.870E-08	ALASM	
6101-T65	58.00		2.970E-08	ALASM	
6151-0	53.30 - 55.00	3.141E+07	3.184E-08	NDT Mag	
6151-O	54.00		3.200E-08	ALASM	
6151-T4	41.50 - 43.30	2.459E+07	4.066E-08	NDT Mag	
6151-T6	42.00		4.100E-08	ALASM	
6151-T6	43.90 - 45.00	2.578E+07	3.879E-08	NDT Mag	
6151-T6	45.00		3.800E-08	ALASM	
6201-T81	54.00		3.200E-08	ALASM	
6205-T1	45.00		3.700E-08	ALASM	
6205-T5	49.00		3.500E-08	ALASM	
6262-T9	44.00		3.900E-08	ALASM	
6351-T6	46.00		3.800E-08	ALASM	
6463-T1	50.00		3.400E-08	ALASM	
6463-T5	55.00		3.100E-08	ALASM	
6463-T6	53.00		3.300E-08	ALASM	
6951-F	53.00 - 53.10	3.077E+07	3.250E-08	NDT Mag	
6951-0	55.70 - 56.50	3.254E+07	3.073E-08	NDT Mag	
7005-O	43.00		4.010E-08	ALASM	
7005-T53, T5351, T63, and T6351	38.00		4.540E-08	ALASM	
7005-T6	35.00		4.930E-08	ALASM	
7039	32-40		4.3E-8--5.4E-8	ALASM	resistivity converted from conductivity--
7049	40.00		4.300E-08	ALASM	
7050-O	47.00		3.670E-08	ALASM	
7050-T76 and T7651	39.50		4.360E-08	ALASM	
7050-T736 and T73651	40.50		4.260E-08	ALASM	
7072	60.00 - 60.10	3.483E+07	2.871E-08	NDT Mag	
7072-O	60.00		2.870E-08	ALASM	

7075-F	44.50 - 47.80	2.677E+07	3.736E-08	NDT Mag	
7075-T6	31.40 - 34.80	1.920E+07	5.209E-08	NDT Mag	
7075-T6	32.00	1.856E+07	5.388E-08	ECTM	
7075-W	27.00 - 37.00	1.856E+07	5.388E-08	NDT Mag	
7075-T6, T62, T651, and T652	33.00		5.220E-08	ALASM	
7075-T76 and T7651	38.50		4.480E-08	ALASM	
7075-T73, T7351, and T7352	40.00		4.310E-08	ALASM	
7076	35.00		3.750E-08	ALASM	
7175-O	46.00		3.750E-08	ALASM	
7175-T66	36.00		4.790E-08	ALASM	
7175-T736 and T73652	40.00		4.310E-08	ALASM	
7178-O	46.00		3.750E-08	ALASM	
7178-T6 and T651	32.00		5.390E-08	ALASM	
7178-T76 and T7651	39.00		4.420E-08	ALASM	
X7178-F and -0	45.50 - 46.00	2.654E+07	3.769E-08	NDT Mag	
X7178-W and T6	26.80 - 32.60	1.723E+07	5.805E-08	NDT Mag	
7475-O	46.00		3.750E-08	ALASM	
7475-T61 and T651	36.00		4.790E-08	ALASM	
7475-T761 and T7651	40.00		4.310E-08	ALASM	
7475-T7351	42.00		4.110E-08	ALASM	
<b>Aluminum Alloys (Cast)</b>					
122 Perm. Mold As Cast	34.00	1.972E+07	5.071E-08	CSNDT	
122 Sand Cond. T2	41.00	2.378E+07	4.205E-08	CSNDT	
122 Sand Cond. T61	33.00	1.914E+07	5.225E-08	CSNDT	
113	30.00	1.740E+07	5.747E-08	CSNDT	
C113	27.00	1.566E+07	6.386E-08	CSNDT	
A 132 Cond. T551	29.00	1.682E+07	5.945E-08	CSNDT	
201.0-T6	27-32		4.5E-8--6.4E-8	ALASM	
206.0-T6	27-32		5.4E-8--6.4E-8	ALASM	conductivity converted from resistivity--
206.0-T7	32-34		5.0E-8--5.4E-8	ALASM	conductivity converted from resistivity--
208.0 as-cast	31.00		5.560E-08	ALASM	
(208.0) 108	31.00	1.798E+07	5.562E-08	CSNDT	
208.0 annealed	38.00		4.540E-08	ALASM	
214	35.00	2.030E+07	4.926E-08	CSNDT	
A214	33.00	1.914E+07	5.225E-08	CSNDT	
218	24.00	1.392E+07	7.184E-08	CSNDT	
220	21.00	1.218E+07	8.210E-08	CSNDT	
242.0-T21, sand	44.00		3.920E-08	ALASM	
(242.0) 142 Sand Cond. T21	44.00	2.552E+07	3.918E-08	CSNDT	
242.0-T571, sand	34.00		5.070E-08	ALASM	
(242.0) 142 Sand Cond. T571	34.00	1.972E+07	5.071E-08	CSNDT	
242.0-T77, sand	38.00		4.540E-08	ALASM	
(242.0) 142 Sand Cond. T77	37.00	2.146E+07	4.660E-08	CSNDT	
242.0-T61, permanent mold	33.00		5.220E-08	ALASM	
295.0-T4	35.00		4.930E-08	ALASM	
(295.0) 195 Cond. T4	35.00	2.030E+07	4.926E-08	CSNDT	
295.0-T62	37.00		4.930E-08	ALASM	
(295.0) 195 Cond. T62	37.00	2.146E+07	4.660E-08	CSNDT	

296.0-T4 and T6	33.00		5.220E-08	ALASM	
(296.0) B 195 Cond. T4	35.00	2.030E+07	4.926E-08	CSNDT	
(296.0) B 195 Cond. T6	36.00	2.088E+07	4.789E-08	CSNDT	
308.0	37.00		4.660E-08	ALASM	
(308.0) A 108	37.00	2.146E+07	4.660E-08	CSNDT	
R 317	30.00	1.740E+07	5.747E-08	CSNDT	
319.0	27.00		6.390E-08	ALASM	
319 Sand	27.00	1.566E+07	6.386E-08	CSNDT	
319 Perm. Mold	28.00	1.624E+07	6.158E-08	CSNDT	
336.0-T551	29.00		5.950E-08	ALASM	
355.0-T51, sand	43.00		4.010E-08	ALASM	
355 Sand Cond. T51	43.00	2.494E+07	4.010E-08	CSNDT	
355.0-T6, sand	36.00		4.790E-08	ALASM	
355 Sand Cond. T6	36.00	2.088E+07	4.789E-08	CSNDT	
355.0-T61, sand	39.00		4.420E-08	ALASM	
355 Sand Cond. T61	37.00	2.146E+07	4.660E-08	CSNDT	
355.0-T7, sand	42.00		4.100E-08	ALASM	
355 Sand Cond. T7	42.00	2.436E+07	4.105E-08	CSNDT	
355.0-T6, permanent mold	39.00		4.420E-08	ALASM	
355 Perm. Mold Cond. T6	39.00	2.262E+07	4.421E-08	CSNDT	
356.0-T51, sand	43.00		4.010E-08	ALASM	
356 Sand Cond. T51	43.00	2.494E+07	4.010E-08	CSNDT	
356.0-T6, sand	39.00		4.420E-08	ALASM	
356 Sand Cond. T6	39.00	2.262E+07	4.421E-08	CSNDT	
356.0-T7, sand	40.00		4.310E-08	ALASM	
356.0-T6, permanent mold	41.00		4.210E-08	ALASM	
360.0	28.00		6.160E-08	ALASM	
A360.0	30.00		5.747E-08	ALASM	resistivity converted from conductivity--
360	37.00	2.146E+07	4.660E-08	CSNDT	
380.0	27.00		6.500E-08	ALASM	
380	27.00	1.566E+07	6.386E-08	CSNDT	
383.0	23.00		7.496E-08	ALASM	resistivity converted from conductivity--
384.0	22.00		7.837E-08	ALASM	resistivity converted from conductivity--
A384.0	23.00		7.496E-08	ALASM	resistivity converted from conductivity--
390.0-F	27.00		6.386E-08	ALASM	resistivity converted from conductivity--
390.0-T5	25.00		6.896E-08	ALASM	resistivity converted from conductivity--
413.0	31.00		5.56E-08	ALASM	
443.0 As-Cast	37.00		4.660E-08	ALASM	
443.0 Annealed	42.05		4.100E-08	ALASM	conductivity converted from resistivity--

514.0	35.00		4.930E-08	ALASM	
518.0	25.00		6.896E-08	ALASM	resistivity converted from conductivity--
520.0-T4	21.00		8.210E-08	ALASM	
535.0	20.00		7.500E-08	ALASM	
712.0	35.00		4.930E-08	ALASM	
713.0	35.00		4.926E-08	ALASM	resistivity converted from conductivity--
750	45.00	2.610E+07	3.831E-08	CSNDT	
771.0	27.00		6.386E-08	ALASM	resistivity converted from conductivity--
850.0	47.00		3.670E-08	ALASM	

ALASM=ASM Specialty Handbook Aluminum and Aluminum Alloys

CSNDT=CSNDT compiled by Eddy Current Technology Incorporated

ECTM=Eddy Current Testing Manual on Eddy Current Method compiled by Eddy Current Technology Incorporated

NDT Mag=NDT Magazine Sept/Oct 1955, Cosgrove Article compiled by Eddy Current Technology Incorporated