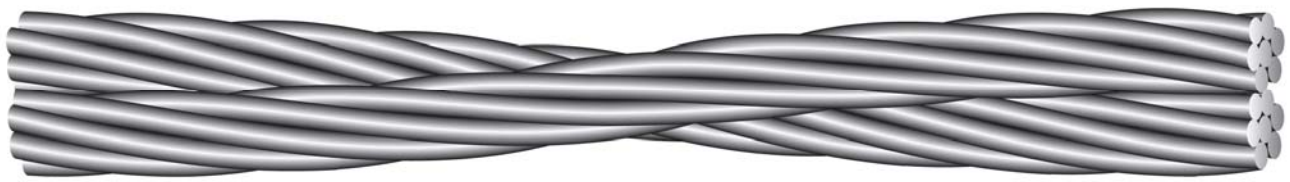
VR2™

Vibration-Resistant, Bare Aluminum Cable.
Available in AAC and ACSR Constructions.



APPLICATIONS

VR2™[1] cable, a vibration-resistant, bare aluminum construction, is designed for use in overhead applications subject to Aeolian vibration and galloping due to wind and ice. VR2™ cable can be strung to the maximum allowable tension limits without the need for additional vibration protection.

SPECIFICATIONS

Southwire's VR2™ cable meets or exceeds the following ASTM specifications for the subconductor of each conductor assembly:

B-231	Aluminum Conductor, Concentric-Lay-Stranded
B-232	Aluminum Conductor, Concentric-Lay-Stranded, Coated Steel Reinforced (ACSR).
B-778	Shaped Wire Compact Concentric-Lay-Stranded Aluminum Conductors (AAC/TW)
B-779	Shaped Wire Compact Concentric-Lay-Stranded Aluminum Conductors, Steel Reinforced (ACSR/TW)

CONSTRUCTION

Southwire's VR2™ cable is composed of two identical bare conductors twisted together with a left-hand lay. This gives the cable a figure 8 spiral shape. This spiral shape disrupts the forces created by steady cross winds which cause cable vibration by presenting a continuously changing projected cable diameter to the wind. This spiral shape, together with less torsional stiffness and varying bending stiffness also reduces or eliminates cable galloping due to combined ice and wind. VR2™ is engineered with a lay length that changes with conductor diameter. The engineered lay ensures that the product will install without bagging issues while still providing equal or better resistance to Aeolian vibration and ice galloping. The component conductors of VR2™ cable can be conductor types AAC, ACSR, AAC/TW, or ACSR/TW meeting the requirements of the appropriate ASTM standard. Other sizes available upon request.

[1]VR2™ is a registered trademark of Southwire Company.

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VR2™ – ACSR VIBRATION RESISTANT CABLE

Code Word	Equivalent Size (AWG-kcmil)	Description		Stranding		Outer Dimensions (in)	Equiv. Dia. (in)	Weight (lbs/1000 ft)			Rated Strength	Resistance (ohms/1000 ft)		Allowable Ampacity* (amps)
		Type	Construction	Alum.	Steel			Alum.	Steel	Total		DC @ 20°C	AC @ 75°C	
Swan/VR2	1	ACSR	2 x #4-6/1	6 x 0.0834	1 x 0.0834	0.250 x 0.500	0.409	78	37	115	3,720	0.2015	0.2601	222
Swanate/VR2	1	ACSR	2 x #4-7/1	7 x 0.0772	1 x 0.1030	0.257 x 0.514	0.421	78	56	134	4,720	0.1993	0.2659	221
Sparrow/VR2	2/0	ACSR	2 x #2-6/1	6 x 0.1052	1 x 0.1052	0.316 x 0.632	0.517	124	59	182	5,700	0.1268	0.1687	293
Robin/VR2	3/0	ACSR	2 x #1-6/1	6 x 0.1181	1 x 0.1181	0.355 x 0.710	0.581	156	74	230	7,100	0.1005	0.1366	335
Raven/VR2	4/0	ACSR	2 x #1/0-6/1	6 x 0.1327	1 x 0.1327	0.398 x 0.796	0.651	197	93	290	8,760	0.0797	0.1113	382
Quail/VR2	266.2	ACSR	2 x #2/0-6/1	6 x 0.1489	1 x 0.1489	0.447 x 0.894	0.732	248	117	366	10,620	0.0632	0.0914	434
Pigeon/VR2	335.6	ACSR	2 x #3/0-6/1	6 x 0.1672	1 x 0.1672	0.502 x 1.004	0.822	313	148	461	13,240	0.0501	0.0757	492
Penguin/VR2	423.2	ACSR	2 x #4/0-6/1	6 x 0.1878	1 x 0.1878	0.563 x 1.126	0.921	395	187	581	16,700	0.0398	0.0628	557
Waxwing/VR2	533.6	ACSR	2 x 266.8-18/1	18 x 0.1217	1 x 0.1217	0.609 x 1.218	0.997	500	78	579	13,760	0.0322	0.0395	720
Partridge/VR2	533.6	ACSR	2 x 266.8-26/7	26 x 0.1013	7 x 0.0788	0.642 x 1.284	1.051	503	231	734	22,600	0.0319	0.0391	734
Ostrich/VR2	600	ACSR	2 x 300-26/7	26 x 0.1074	7 x 0.0835	0.680 x 1.360	1.113	565	260	825	25,400	0.0283	0.0348	790
Merlin/VR2	672.8	ACSR	2 x 336.4-18/1	18 x 0.1367	1 x 0.1367	0.684 x 1.368	1.119	631	99	730	17,360	0.0255	0.0315	832
Linnet/VR2	672.8	ACSR	2 x 336.4-26/7	26 x 0.1137	7 x 0.0885	0.720 x 1.440	1.178	634	291	925	28,200	0.0253	0.0311	848
Oriole/VR2	672.8	ACSR	2 x 336.4-30/7	30 x 0.1059	7 x 0.1059	0.741 x 1.482	1.213	635	417	1053	34,700	0.0251	0.0309	858
Chickadee/VR2	795	ACSR	2 x 397.5-18/1	18 x 0.1486	1 x 0.1486	0.743 x 1.486	1.216	745	117	862	19,880	0.0216	0.0268	923
Brant/VR2	795	ACSR	2 x 397.5-24/7	24 x 0.1287	7 x 0.0858	0.772 x 1.544	1.263	749	274	1023	29,300	0.0215	0.0266	935
Ibis/VR2	795	ACSR	2 x 397.5-26/7	26 x 0.1236	7 x 0.0961	0.783 x 1.566	1.281	749	344	1093	32,600	0.0214	0.0264	941
Lark/VR2	795	ACSR	2 x 397.5-30/7	30 x 0.1151	7 x 0.1151	0.806 x 1.612	1.319	751	493	1244	40,700	0.0212	0.0262	952
Pelican/VR2	954	ACSR	2 x 477-18/1	18 x 0.1628	1 x 0.1628	0.814 x 1.628	1.332	894	140	1035	23,500	0.0180	0.0224	1032
Flicker/VR2	954	ACSR	2 x 477-24/7	24 x 0.1410	7 x 0.0940	0.846 x 1.692	1.385	899	329	1227	34,300	0.0179	0.0223	1047
Hawk/VR2	954	ACSR	2 x 477-26/7	26 x 0.1354	7 x 0.1053	0.858 x 1.716	1.404	899	413	1312	39,000	0.0178	0.0221	1053
Hen/VR2	954	ACSR	2 x 477-30/7	30 x 0.1261	7 x 0.1261	0.883 x 1.766	1.445	901	592	1493	47,600	0.0177	0.0220	1066
Osprey/VR2	1113	ACSR	2 x 556.5-18/1	18 x 0.1758	1 x 0.1758	0.879 x 1.758	1.439	1043	164	1207	27,400	0.0154	0.0194	1134
Parakeet/VR2	1113	ACSR	2 x 556.5-24/7	24 x 0.1523	7 x 0.1015	0.914 x 1.828	1.496	1048	384	1432	39,600	0.0153	0.0192	1151
Dove/VR2	1113	ACSR	2 x 556.5-26/7	26 x 0.1463	7 x 0.1138	0.927 x 1.854	1.517	1048	482	1530	45,200	0.0153	0.0191	1158
Eagle/VR2	1113	ACSR	2 x 556.5-30/7	30 x 0.1362	7 x 0.1362	0.953 x 1.906	1.560	1051	690	1741	55,600	0.0152	0.0189	1172
Peacock/VR2	1210	ACSR	2 x 605-24/7	24 x 0.1588	7 x 0.1059	0.953 x 1.906	1.560	1140	417	1557	43,100	0.0141	0.0177	1210
Squab/VR2	1210	ACSR	2 x 605-26/7	26 x 0.1525	7 x 0.1186	0.966 x 1.932	1.581	1140	524	1664	48,700	0.0140	0.0176	1218

+ Ampacity calculated assuming: ambient 25°C, conductor 75°C, wind 2 ft/sec., sun.

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One Southwire Drive
Carrollton, GA 30119
USA
770/832-4242
www.southwire.com

VR2™ – ACSR VIBRATION RESISTANT CABLE – Continued

Code Word	Equivalent Size (AWG-kcmil)	Description		Stranding		Outer Dimensions (in)	Equiv. Dia. (in)	Weight (lbs/1000 ft)			Rated Strength	Resistance (ohms/1000 ft)		Allowable Ampacity* (amps)
		Type	Construction	Alum.	Steel			Alum.	Steel	Total		DC @ 20°C	AC @ 75°C	
Wood Duck/VR2	1210	ACSR	2 x 605-30/7	30 x 0.1420	7 x 0.1420	0.994 x 1.988	1.627	1142	751	1893	57,800	0.0140	0.0175	1233
Teal/VR2	1210	ACSR	2 x 605-30/19	30 x 0.1420	19 x 0.0852	0.994 x 1.988	1.627	1142	735	1877	59,900	0.0140	0.0175	1232
Swift/VR2	1272	ACSR	2 x 636-36/1	36 x 0.1329	1 x 0.1329	0.930 x 1.860	1.522	1192	94	1286	27,500	0.0135	0.0172	1223
Rook/VR2	1272	ACSR	2 x 636-24/7	24 x 0.1628	7 x 0.1085	0.977 x 1.954	1.599	1198	438	1637	45,300	0.0134	0.0169	1247
Grosbeak/VR2	1272	ACSR	2 x 636-26/7	26 x 0.1564	7 x 0.1216	0.991 x 1.982	1.622	1198	551	1749	50,400	0.0134	0.0168	1256
Scoter/VR2	1272	ACSR	2 x 636-30/7	30 x 0.1456	7 x 0.1456	1.019 x 2.038	1.668	1201	789	1990	60,800	0.0133	0.0167	1271
Egret/VR2	1272	ACSR	2 x 636-30/19	30 x 0.1456	19 x 0.0874	1.019 x 2.038	1.668	1201	773	1974	63,000	0.0133	0.0167	1270
Flamingo/VR2	1333.2	ACSR	2 x 666.6-24/7	24 x 0.1667	7 x 0.1111	1.000 x 2.000	1.637	1256	459	1715	47,500	0.0128	0.0162	1283
Gannet/VR2	1333.2	ACSR	2 x 666.6-26/7	26 x 0.1601	7 x 0.1245	1.014 x 2.028	1.660	1256	577	1833	52,800	0.0128	0.0161	1292
Stilt/VR2	1431	ACSR	2 x 715.5-24/7	24 x 0.1727	7 x 0.1151	1.036 x 2.072	1.696	1348	493	1841	51,000	0.0119	0.0152	1339
Starling/VR2	1431	ACSR	2 x 715.5-26/7	26 x 0.1659	7 x 0.1290	1.051 x 2.102	1.720	1348	620	1967	56,700	0.0119	0.0151	1348
Redwing/VR2	1431	ACSR	2 x 715.5-30/19	30 x 0.1544	19 x 0.0926	1.081 x 2.162	1.769	1351	869	2220	69,200	0.0118	0.0149	1364
Coot/VR2	1590	ACSR	2 x 795-36/1	36 x 0.1486	1 x 0.1486	1.040 x 2.080	1.702	1490	117	1607	33,500	0.0108	0.0140	1395
Tern/VR2	1590	ACSR	2 x 795-45/7	45 x 0.1329	7 x 0.0886	1.063 x 2.126	1.740	1498	292	1790	44,200	0.0108	0.0140	1403
CondorVR2	1590	ACSR	2 x 795-54/7	54 x 0.1213	7 x 0.1213	1.092 x 2.184	1.787	1498	548	2045	56,400	0.0107	0.0141	1408
Drake/VR2	1590	ACSR	2 x 795-26/7	26 x 0.1749	7 x 0.1360	1.107 x 2.214	1.812	1498	688	2186	63,000	0.0107	0.0137	1434
Mallard/VR2	1590	ACSR	2 x 795-30/19	30 x 0.1628	19 x 0.0977	1.140 x 2.280	1.866	1501	966	2467	76,900	0.0106	0.0136	1452
Ruddy/VR2	1800	ACSR	2 x 900-45/7	45 x 0.1414	7 x 0.0943	1.131 x 2.262	1.851	1695	331	2026	48,900	0.0096	0.0125	1507
Canary/VR2	1800	ACSR	2 x 900-54/7	54 x 0.1291	7 x 0.1291	1.162 x 2.324	1.902	1695	620	2316	63,800	0.0095	0.0126	1514
Rail/VR2	1908	ACSR	2 x 954-45/7	45 x 0.1456	7 x 0.0971	1.165 x 2.330	1.907	1797	351	2148	51,800	0.0090	0.0119	1559
Cardinal/VR2	1908	ACSR	2 x 954-54/7	54 x 0.1329	7 x 0.1329	1.196 x 2.392	1.957	1797	657	2455	67,600	0.0083	0.0111	1630
Ortolan/VR2	2067	ACSR	2 x 1033.5-45/7	45 x 0.1515	7 x 0.1010	1.212 x 2.424	1.984	1947	380	2327	55,400	0.0083	0.0111	1630
Curlew/VR2	2067	ACSR	2 x 1033.5-54/7	54 x 0.1383	7 x 0.1383	1.245 x 2.490	2.038	1947	712	2659	73,300	0.0083	0.0112	1639
BluejayVR2	2226	ACSR	2 x 1113-45/7	45 x 0.1573	7 x 0.1049	1.258 x 2.516	2.059	2097	409	2506	59,600	0.0077	0.0104	1699
Finch/VR2	2226	ACSR	2 x 1113-54/19	54 x 0.1436	19 x 0.0861	1.292 x 2.584	2.115	2107	751	2858	78,100	0.0077	0.0105	1707

+ Ampacity calculated assuming: ambient 25°C, conductor 75°C, wind 2 ft/sec., sun.

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VR2™ – AAC VIBRATION RESISTANT CABLE

Code Word	Equivalent Size (AWG-kcmil)	Description		Stranding	Outer Dimensions (in)	Equiv. Dia. (in)	Weight (lbs/1000 ft)	Rated Strength	Resistance (ohms/1000 ft)		Allowable Ampacity* (amps)
		Type	Construction						DC @ 20°C	AC @ 75°C	
Rose/VR2	1	AAC	2 x #4-7	7 x 0.0772	0.232 x 0.464	0.380	78.2	1,760	0.2070	0.2530	222
Iris/VR2	2/0	AAC	2 x #2-7	7 x 0.0974	0.292 x 0.584	0.478	124.4	2,700	0.1303	0.1593	296
Pansy/VR2	3/0	AAC	2 x #1-7	7 x 0.1093	0.328 x 0.656	0.537	156.9	3,280	0.1033	0.1263	343
Poppy/VR2	4/0	AAC	2 x #1/0-7	7 x 0.1228	0.368 x 0.736	0.602	198.0	3,980	0.0818	0.1001	397
Aster/VR2	266.8	AAC	2 x #2/0-7	7 x 0.1379	0.414 x 0.828	0.678	249	5,020	0.0649	0.0795	459
Phlox/VR2	366.4	AAC	2 x #3/0-7	7 x 0.1548	0.464 x 0.928	0.759	315	6,080	0.0515	0.0631	531
Oxlip/VR2	397.5	AAC	2 x #4/0-7	7 x 0.1739	0.522 x 1.004	0.854	397	7,660	0.0408	0.0501	614
Daisy/VR2	533.6	AAC	2 x 266.8-7	7 x 0.1952	0.586 x 1.172	0.959	500	9,650	0.0324	0.0399	710
Laurel/VR2	533.6	AAC	2 x 266.8-19	19 x 0.1185	0.592 x 1.184	0.969	500	9,940	0.0324	0.0399	712
Tulip/VR2	672.8	AAC	2 x 336.4-19	19 x 0.1331	0.665 x 1.330	1.088	631	12,300	0.0257	0.0318	822
Daffofil/VR2	700	AAC	2 x 350-19	19 x 0.1357	0.679 x 1.358	1.111	656	12,800	0.0247	0.0306	843
Canna/VR2	795	AAC	2 x 397.5-19	19 x 0.1446	0.723 x 1.446	1.183	745	14,200	0.0217	0.0270	912
Cosmos/VR2	954	AAC	2 x 477-19	19 x 0.1584	0.792 x 1.584	1.296	894	16,700	0.0181	0.0226	1020
Syringa/VR2	954	AAC	2 x 477-37	37 x 0.1135	0.795 x 1.590	1.301	894	17,400	0.0181	0.0226	1021
Zinnia/VR2	1000	AAC	2 x 500-19	19 x 0.1622	0.811 x 1.622	1.327	937	17,500	0.0173	0.0216	1050
Hyacinth/VR2	1000	AAC	2 x 500-37	37 x 0.1162	0.814 x 1.628	1.332	937	18,200	0.0173	0.0216	1051
Dahlia/VR2	1113	AAC	2 x 556.5-19	19 x 0.1711	0.856 x 1.712	1.401	1043	19,500	0.0155	0.0196	1120
Mistletoe/VR2	1113	AAC	2 x 556.5-37	37 x 0.1226	0.858 x 1.716	1.404	1043	19,900	0.0155	0.0196	1121
Meadowsweet/VR2	1200	AAC	2 x 600-37	37 x 0.1273	0.891 x 1.782	1.458	1125	21,400	0.0144	0.0182	1173
Orchid/VR2	1272	AAC	2 x 636-37	37 x 0.1311	0.918 x 1.836	1.502	1192	22,700	0.0136	0.0173	1215
Violet/VR2	1431	AAC	2 x 715.5-37	37 x 0.1391	0.973 x 1.946	1.592	1341	25,600	0.0121	0.0155	1302
Nasturtium/VR2	1431	AAC	2 x 715.5-61	61 x 0.1083	0.975 x 1.950	1.596	1341	26,300	0.0121	0.0155	1303
Petunia/VR2	1500	AAC	2 x 750-37	37 x 0.1424	0.997 x 1.994	1.632	1406	26,300	0.0115	0.0149	1339
Arbutus/VR2	1590	AAC	2 x 795-37	37 x 0.1466	1.026 x 2.052	1.679	1490	27,800	0.0109	0.0141	1385

+ Ampacity calculated assuming: ambient 25°C, conductor 75°C, wind 2 ft/sec., sun.

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		Type	Construction						DC @ 20°C	AC @ 75°C	
Lilac/VR2	1590	AAC	2 x 795-61	61 x 0.1142	1.027 x 2.054	1.681	1490	28,700	0.0109	0.0141	1385
Cockscomb/VR2	1800	AAC	2 x 900-37	37 x 0.1560	1.092 x 2.184	1.787	1687	30,900	0.0096	0.0126	1487
Magnolia/VR2	1908	AAC	2 x 954-37	37 x 0.1606	1.125 x 2.250	1.841	1788	32,700	0.0091	0.0120	1537
Goldenrod/VR2	1908	AAC	2 x 954-61	61 x 0.1251	1.126 x 2.252	1.843	1788	33,700	0.0091	0.0120	1537
Camellia/VR2	2000	AAC	2 x 1000-61	61 x 0.1280	1.152 x 2.304	1.885	1875	35,300	0.0086	0.0116	1578
Bluebell/VR2	2067	AAC	2 x 1033.5-37	37 x 0.1671	1.171 x 2.342	1.916	1937	35,400	0.0084	0.0113	1600
Larkspur/VR2	2067	AAC	2 x 1033.5-61	61 x 0.1302	1.172 x 2.344	1.918	1937	36,500	0.0084	0.0113	1600
Marigold/VR2	2226	AAC	2 x 1113-61	61 x 0.1351	1.216 x 2.432	1.990	2086	39,300	0.0078	0.0107	1666
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