



# Submittal #260519-1.0 260519 - Low Voltage Electrical Power Conductors and Cables

C&S Companies  
499 Col Eileen Collins Blvd.  
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Project: 128.060.001 - Dutchess Stadium New Clubhouse &  
Improvements  
1500 NY-9D  
Wappingers Falls, New York 12590

## Low Voltage Electrical Power Conductors and Cables - Product Information

<b>SPEC SECTION:</b>	260519 - Low Voltage Electrical Power Conductors and Cables	<b>SUBMITTAL MANAGER:</b>	Kara Mearon (C&S Engineers Inc.)
<b>STATUS:</b>	Open	<b>DATE CREATED:</b>	03/13/2023
<b>ISSUE DATE:</b>		<b>REVISION:</b>	0
<b>RESPONSIBLE CONTRACTOR:</b>	Piazza Brothers Construction	<b>RECEIVED FROM:</b>	
<b>RECEIVED DATE:</b>		<b>SUBMIT BY:</b>	
<b>FINAL DUE DATE:</b>	04/24/2023	<b>LOCATION:</b>	
<b>TYPE:</b>	Product Information	<b>COST CODE:</b>	
<b>APPROVERS:</b>	Allen Schmidt (DLR Group), Sarah Treas (DLR Group)		
<b>BALL IN COURT:</b>	Allen Schmidt (DLR Group), Sarah Treas (DLR Group)		
<b>DISTRIBUTION:</b>			
<b>DESCRIPTION:</b>			
<b>ATTACHMENTS:</b>			

### SUBMITTAL WORKFLOW

#	NAME	SUBMITTER/ APPROVER	SENT DATE	DUE DATE	RETURNED DATE	RESPONSE	ATTACHMENTS	COMMENTS
1	Damon Baxter	Submitter		1/8/2024		Pending		
2	Gus Carvajal	Submitter		1/8/2024		Pending		
3	Julianna LoPriore	Submitter		1/8/2024	4/10/2023	Submitted	<a href="#">Low Voltage Cables(TBS)- Upstate Electric-260519-3.2.pdf</a>	Low Voltage Cables
4	Allen Schmidt	Approver	4/10/2023	4/24/2023		Pending		
5	Sarah Treas	Approver	4/10/2023	4/24/2023		Pending		



# Submittal #260519-1.0 260519 - Low Voltage Electrical Power Conductors and Cables

**Architect/Engineer Approval:**

- (A) Approved
- (A/N) Approved As Noted
- (RR) Revise and Resubmit
- (REJ) Rejected
- (SUB) Submit Specified Item

Checking is only for general compliance with the design concept of the project and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the plans and specifications. Contractor is responsible for dimensions which shall be confirmed and correlated at the jobsite; fabrication processes and techniques of construction; coordination of his work with that of all other trades; and the satisfactory performance of his work.

Reviewed by: \_\_\_\_\_  
Date: \_\_\_\_\_

**DLRGROUP**  
Submittal Review

Project Name:	Dutchess Stadium Left Field Building
Project Number:	57-21113-01
Submittal ID:	260519-1.0
Received On:	4/10/2023
Reviewed On:	4/14/2023
Reviewed By:	Collin Wheeler

**Action:** Furnish As Corrected

This review is for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. Review of submittals is not for the purpose of determining the accuracy and completeness of other information such as dimensions, quantities, and installation or performance of equipment or systems, which are the Contractor's responsibility. The Architect's review shall not constitute approval of safety precautions or construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component. The Architect's comments, notes or corrections are not an authorization to proceed with Work involving a change in the Contract Sum, the Contract Time or both. If any portion of this review requires a change to the Work, an appropriate change instrument must be executed in accordance with the Contract Documents.

**\* Provide copper versions of conductors submitted herein. Refer to specs and feeder schedule on sheet E5.1ii for acceptable conductor applications. Specifically, copper shall be used for circuits 100A and less and for equipment such as mechanical where warranties/listings require copper conductors.**

BY \_\_\_\_\_ DATE \_\_\_\_\_ COPIES TO \_\_\_\_\_



# SUBMITTAL COVER SHEET

**From:** Julianna LoPriore **Attn:** Tim Brown  
**Company:** Piazza, Inc. **C&S Companies**  
**Phone/Fax #:** (914)741-4435 **499 Col. Eileen Collins Blvd.**  
**Project:** Dutchess Stadium **Syracuse, NY 13212**  
**Project #:** RFB-DCB-18-22 **(315) 455-2000; Fax: 455-9577**

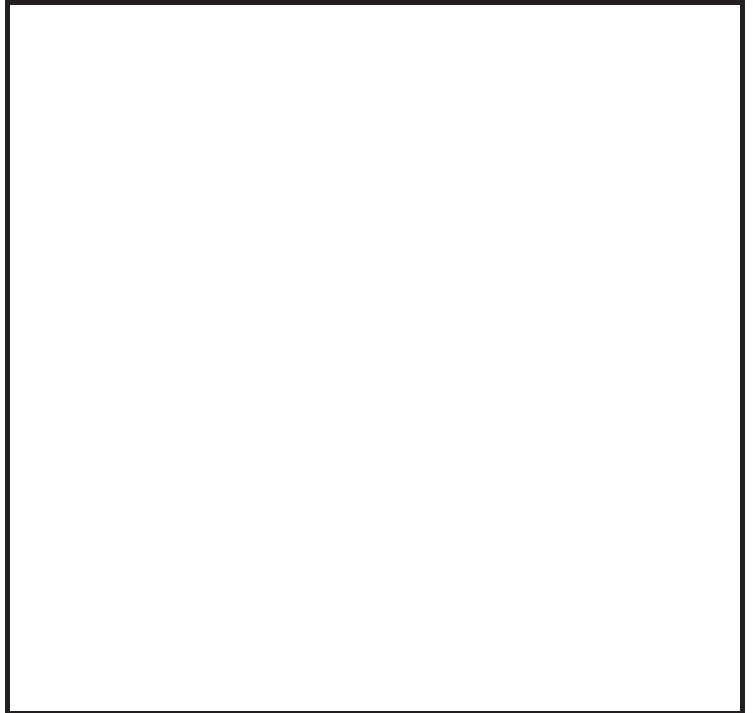
**Reference:** CSI Code: 260519 Dwg No: \_\_\_\_\_  
 Paragraph: 3.2 Other: \_\_\_\_\_

**Description:** Low Voltage Cables

**Supplier:** Upstate Electric  
**Manufacturer:** Southwire

**Item Type:** \_\_\_\_\_ Product Data \_\_\_\_\_ Manf. Cert/Warranty  
 \_\_\_\_\_ Shop Drawings \_\_\_\_\_ Samples  
x Other: Technical Data

**Contractor's Approval:**  
 \_\_\_\_\_ Reviewed for general compliance of specifications.  
 \_\_\_\_\_ This submittal is a **substitute** to the specified product.  
x For Architects / Engineers Approval  
 This is our 1st submittal for this item.  
 We are submitting \_\_\_\_\_ copies.  
**Contractor Submittal Review Stamp**  
 THE ATTACHED MATERIAL HAS BEEN REVIEWED BY THE UNDERSIGNED AND IS BELIEVED TO COMPLY WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE UNDERSIGNED UNDERSTANDS VERIFICATION OF FIELD DIMENSIONS, AND COORDINATION WITH OTHER TRADES, REMAINS THE RESPONSIBILITY OF THE CONTRACTOR.  
 Submitted by: Piazza, Inc.  
 Date: 4/10/2023



# SIMpull THHN® Aluminum THHN Wire & Cable with Alumaflex® Brand Conductors



600 Volt Alumaflex® Brand Aluminum Alloy (AA-8176) Conductor. Thermoplastic Insulation/SIM Nylon Sheath, Heat, Moisture, Gasoline and Oil Sunlight Resistant. Also Rated THWN-2. SIM Technology® for Easier Pulling

## APPLICATIONS

Southwire SIMpull THHN® Aluminum THHN Wire & Cable with Alumaflex® Brand conductors are primarily used in conduit and cable trays for services, feeders and branch circuits in commercial or industrial applications as specified in the 2011 National Electrical Code. When used as Type THHN or T90 Nylon conductor is suitable for use in dry locations at temperatures not to exceed 90 °C. When used as Type THWN-2 or TWN75, conductor is suitable for use in wet or dry locations at temperatures not to exceed 90 °C or not to exceed 75 °C when exposed to oil or coolant. Voltage for all applications is 600 volts. This cable should be installed without application of pulling lubricant.

## STANDARDS & REFERENCES

Southwire Aluminum SIMpull THHN® conductors comply with the following:

- ASTM B-800 and B-801
- UL Standard 83
- CSA
- Federal Specification A-A-59544
- VW-1 – Sizes 4 through 1 AWG
- CT - Sizes 1/0 AWG and larger Sizes Rated for CT use
- FT1 - Sizes 4 AWG through 750 kcmil
- T90 Nylon – Sizes 4 AWG through 750 kcmil
- TWN 75 – Sizes 8 AWG through 750 kcmil
- National Electrical Code, NFPA 70, 2011 Edition
- NEMA WC-70 Construction Requirements
- RoHS/Reach Compliant

## CONSTRUCTION

Southwire SIMpull THHN® conductors are Alumaflex® Brand AA-8000 series aluminum alloy, compact stranded. Insulated with a tough heat and moisture-resistant polyvinyl chloride (PVC), over which a SIM (SLIKQWIK® Infused Membrane) nylon (polyamide) or UL-listed equal jacket is applied. Conductor sizes 1/0 AWG and larger are listed and marked sunlight resistant in colors. Available in black, white, red, blue,



Conductor		Insulation Thickness (mils)	Jacket Thickness (mils)	Nominal O.D. (mils)	Net Wt. Per 1000' (lbs.)	Allowable Ampacities+			Standard Package
Size (AWG or kcm)	No. of strands					60°C	75°C	90°C	
8	7	30	5	204	27	35	40	45	B
6	7	30	5	239	38	40	50	60	C
4	7	40	6	305	62	55	65	75	BCD
2	7	40	6	360	91	75	90	100	BC
1	18	50	7	413	117	85	100	115	BC
1/0	18	50	7	450	141	100	120	135	BCD
2/0	18	50	7	490	172	115	135	150	BCD
3/0	18	50	7	537	210	130	155	175	BCD
4/0	18	50	7	589	257	150	180	205	BCD
250	22	60	8	656	311	170	205	230	ABC
300	35	60	8	706	365	190	230	255	BC
350	35	60	8	752	418	210	250	280	BC
400	35	60	8	795	471	225	270	305	BC
500	35	60	8	872	576	260	310	350	BC
600	58	70	9	971	700	285	340	385	BC
700	58	70	9	1035	804	310	375	420	C
750	58	70	9	1066	856	320	385	435	ABC
900	58	70	9	1139	1013	355	425	480	N/A
1000	58	70	9	1218	1117	375	445	500	N/A
<p>+ Allowable Ampacities shown are for general use as specified by the National Electrical Code 2011 Edition, Section 310.15 and 240.4(D). Unless the equipment is marked for use at higher temperatures, the conductor ampacities shall be limited to the following per NEC 110.14(C): 60°C - When terminated to equipment for circuits rated 100 amperes or less marked for 14 through 1 AWG conductors. 75°C - When terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG. 90°C - THHN dry locations and THWN wet or dry locations for ampacity adjustment purposes using NEC section 310.15.</p>									Package Codes A-500' B-2,500' C-1,000' D-5,000'

purple, green, yellow, orange, brown, and gray. Also available in striped configurations. Some colors are subject to economic order quantity.

**RECOMMENDED SAMPLE SPECIFICATIONS:**

Conductors shall be UL-listed Type THHN and THWN-2, suitable for operation at 600 volts, as specified in the National Electrical Code. Sizes 8 through 1 AWG shall be rated VW-1, larger sizes shall be rated for CT Use. Conductors shall be AlumaFlex aluminum alloy, insulated with high-heat and moisture resistant PVC, jacketed with abrasion, moisture, gasoline, and oil resistant nylon or UL-listed equivalent as manufactured by Southwire Company or approved equal.

Conductor		
Size (AWG or kcmil)	No. of strands	Stock Numbers
8	7	<b>Stock #: N/A</b>
6	7	<b>Stock #: BK:563768, RD:573834, BE:573835, WE:578332, GN:566358</b>
4	7	<b>Stock #: BK:563769, RD:573544, BE:573833, WE:577628, GN:562211</b>
2	7	<b>Stock #: BK:563770, RD:573541, BE:573542, WE:563493, BN:587026, OE:587027, YW:587028, GY:578329, GN:562745</b>
1	18	<b>Stock #: BK:563771, RD:583155, BE:583156, WE:578328, BN:587023, OE:587024, YW:587025, GY:578327, GN:562746</b>
1/0	18	<b>Stock #: BK:562747, RD:562748, BE:562749, WE:562750, BN:562753, OE:562754, YW:562752, GY:562755, GN:562756, PE:573380</b>
2/0	18	<b>Stock #: BK:562212, RD:562214, BE:562621, WE:562213, BN:562758, OE:562759, YW:562757, GY:562760, GN:562761, PE:573370</b>
3/0	18	<b>Stock #: BK:562663, RD:562665, BE:562666, WE:562664, BN:562763, OE:562764, YW:562762, GY:562765, GN:562766, PE:573371</b>
4/0	18	<b>Stock #: BK:562671, RD:562673, BE:562674, WE:562672, BN:561805, OE:561806, YW:561807, GY:562767, GN:562768, PE:573372</b>
250	22	<b>Stock #: BK:560444, RD:562626, BE:562627, WE:562625, BN:561863, OE:561864, YW:561865, GY:561866, GN:561867, PE:573373</b>
300	35	<b>Stock #: BK:562667, RD:562669, BE:562670, WE:562668, BN:562771, OE:562772, YW:562770, GY:562773, GN:562774, PE:573374</b>
350	35	<b>Stock #: BK:560443, RD:562623, BE:562624, WE:562622, BN:561858, OE:561859, YW:561861, GY:561862, GN:562775, PE:573375</b>
400	35	<b>Stock #: BK:562677, RD:562776, BE:562778, WE:562779, BN:562781, OE:562782, YW:562780, GY:562783, GN:562699, PE:573376</b>
500	35	<b>Stock #: BK:560442, RD:562696, BE:562697, WE:562698, BN:561853, OE:561854, YW:561855, GY:561856, GN:561857, PE:573377</b>
600	58	<b>Stock #: BK:560441, RD:562630, BE:562631, WE:562628, BN:561847, OE:561848, YW:561849, GY:561850, GN:561851, PE:573379</b>
700	58	<b>Stock #: BK:562689, RD:562690, BE:562691, WE:562692, BN:561843, OE:561844, YW:561846, GY:562693</b>
750	58	<b>Stock #: BK:562632, RD:562634, BE:562635, WE:562633, BN:561838, OE:561839, YW:561840, GY:561841, GN:561842, PE:573481</b>
900	58	<b>Stock #: BK:562679, RD:562681, BE:562682, WE:562683, BN:561782, OE:561783, YW:561785, GY:561786, GN:562684</b>
1000	58	<b>Stock #: BK:562680, BN:564280, OE:564281, YW:564282, GY:564283</b>
<b>Color Abbreviations</b> BK-Black      RD-Red      BE-Blue      WE-White      BN-Brown OE-Orange      YW-Yellow      GY-Grey      GN-Green		

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# SIMpull XHHW-2<sup>®</sup>

## Aluminum XHHW Wire & Cable



1000 Volts / 600 Volts Alumaflex<sup>®</sup> Brand Aluminum Alloy (AA-8176) Conductor. Cross-linked Polyethylene (XLPE) Insulation. Moisture Resistant High Heat.

### APPLICATIONS

Southwire<sup>®</sup> SIMpull XHHW-2<sup>®</sup> aluminum conductors are primarily used in conduit or recognized raceways for service and feeder wiring as specified in the National Electrical Code. XHHW-2 conductors may be used in wet or dry locations at temperatures not to exceed 90°C. Voltage rating for XHHW-2 conductors is 1000 volts. Suitable for use in Health Care Facilities per section 517.160 of the NEC where a dielectric constant of 3.5 or less may be specified. This product is designed to be installed without the application of pulling lubricant.

### STANDARDS & REFERENCES

Southwire SIMpull<sup>®</sup> Aluminum Type XHHW-2 conductors comply with the following:

- ASTM – B800 and either B801 or B836 (SIW)
- Listed per UL Standard 44
- NOM-ANCE 90° C
- Federal Specification A-A-59544
- National Electrical Code, NFPA 70
- NEMA WC-70 (ICEA S-95-658) Construction Requirements
- CT Rated - Sizes 1/0 AWG and larger
- FT4 Rated - Sizes 1/0 AWG and larger
- Gas & Oil Resistant II - All Sizes
- Sunlight Resistant – Sizes 6 AWG and larger
- RoHS/Reach Compliant

### CONSTRUCTION

Southwire Type XHHW-2 aluminum conductors are Alumaflex<sup>®</sup> brand AA-8000 series aluminum alloy, compact stranded. The insulation is an abrasion, moisture and heat resistant SIMpull<sup>®</sup> thermoset cross-linked polyethylene. Conductor sizes 6 AWG and larger are listed and marked sunlight resistant in all colors. Available in black, white, red, blue, brown, orange, yellow, purple, gray, and green. Some colors are subject to economic order quantity.

Revised 12/3/2019



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Conductor		Insulation Thickness (mils)	Nominal O.D. (mils)	Approx. Net Wt. Per 1000' (lbs.)	Allowable Ampacities+			Standard Package
Size (AWG or kcmil)	No. of strands				60°C	75°C	90°C	
8	7	45	227	30	35	40	45	BCD
6	7	45	259	39	40	50	55	BCD
4	7	45	303	57	55	65	75	BCD
2	6	45	358	85	75	90	100	BCD
1	8	55	413	108	85	100	115	BC
1/0	10	80	450	180	115	135	150	ABC
2/0	12	55	490	161	115	135	150	ABCD
3/0	16	55	537	198	130	155	175	BCD
4/0	19	55	589	243	150	180	205	ABCD
250	22	55	650	293	170	205	230	BCD
300	35	65	700	346	195	230	260	BC
350	35	65	746	398	210	250	280	BCD
400	35	65	789	449	225	270	305	CD
500	35	65	866	552	260	310	350	ABCDE
600	58	80	973	675	285	340	385	ABD
700	58	80	1037	777	315	375	425	N/A
750	58	80	1068	829	320	385	435	ABCE
900	58	80	1162	979	355	425	480	N/A
1000	58	80	1220	1085	375	445	500	C
<p>+ Allowable Ampacities shown are for general use as specified by the National Electrical Code, Sections 310.15 and 240.4(D). Unless the equipment is marked for use at higher temperatures, the conductor ampacities shall be limited to the following per NEC 110.14(C): 60°C - When terminated to equipment for circuits rated 100 amperes or less marked for 14 through 1 AWG conductors. 75°C - When terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG. 90°C - THHN dry locations and THWN wet or dry locations for ampacity adjustment purposes using NEC section 310.15.</p>								<p>Package Codes  A-500'  B-2,500'  C-1,000'  D-5,000'</p>

**RECOMMENDED SAMPLE SPECIFICATIONS:**

Conductors shall be UL-listed Type XHHW-2, suitable for operation at 1000 volts or less in wet or dry locations at temperatures not to exceed 90 °C. Conductors shall be annealed Alumaflex® brand aluminum alloy as manufactured by Southwire Company or approved equal.

**Revised 12/3/2019**



Conductor		
Size (AWG or kcmil)	No. of strands	Stock Numbers
8	7	<b>Stock #: N/A</b>
6	7	<b>Stock #: BK:112706, BN:591209, OE:591210, YW:591211, GN:585321</b>
4	7	<b>Stock #: BK:112714, RD:591114, BE:591115, WE:591116, BN:591201, OE:591202, YW:591203, GN:585320</b>
2	7	<b>Stock #: BK:112722, BN:591213, OE:591214, YW:591215, GN:585319</b>
1	18	<b>Stock #: BK:112730, RD:591204, BE:591205, WE:591206, BN:591207, OE:591208, YW:591216, GN:585318, GY:596497</b>
1/0	18	<b>Stock #: BK:112748, RD:591284, BE:591285, WE:591286, BN:585291, OE:585292, YW:585293, GY:585294, GN:585290, PE:596423</b>
2/0	18	<b>Stock #: BK:112755, RD:591288, BE:591289, WE:591290, BN:585296, OE:585297, YW:585298, GY:585300, GN:585295, PE:596422</b>
3/0	18	<b>Stock #: BK:112763, RD:585302, BE:585303, WE:585304, BN:585305, OE:585306, YW:585308, GY:585309, GN:585301, PE:596421</b>
4/0	18	<b>Stock #: BK:112771, RD:585317, BE:585316, WE:585314, BN:585313, OE:585312, YW:585311, GY:585310, GN:567439, PE:592563</b>
250	22	<b>Stock #: BK:278341, RD:576390, BE:576391, WE:576392, BN:576385, OE:576386, YW:576387, GY:576388, GN:567440, PE:592468</b>
300	35	<b>Stock #: BK:278358, RD:576382, BE:576383, WE:576384, BN:576133, OE:576134, YW:576135, GY:576136, GN:576361, PE:593380</b>
350	35	<b>Stock #: BK:278366, RD:576378, BE:576379, WE:576380, BN:576374, OE:576375, YW:576376, GY:576377, GN:567437, PE:592562</b>
400	35	<b>Stock #: BK:278374, RD:576370, BE:576372, WE:576373, BN:576127, OE:576129, YW:576130, GY:576131, GN:567384, PE:593379</b>
500	35	<b>Stock #: BK:278382, RD:576367, BE:576368, WE:576369, BN:576362, OE:576364, YW:576365, GY:576366, GN:576394, PE:589196</b>
600	58	<b>Stock #: BK:278390, RD:576350, BE:576351, WE:576352, BN:576345, OE:576346, YW:576347, GY:576349, GN:567375, PE:589197</b>
700	58	<b>Stock #: BK:278408, RD:591293, BE:591294, WE:591295, BN:576341, OE:576342, YW:576343, GY:576344, GN:591296</b>
750	58	<b>Stock #: BK:278416, RD:592233, BE:592234, WE:592235, BN:567432, OE:567433, YW:567434, GY:567435, GN:567436, PE:592469</b>
900	58	<b>Stock #: BK:554059, BN:560445, OE:560446, YW:560447, GY:560448, PE:596424</b>
1000	58	<b>Stock #: BK:278424</b>
<b>Color Abbreviations</b> BK-Black   RD- Red   BE-Blue   WE-White   BN-Brown OE-Orange   YW- Yellow   GY-Grey   GN-Green   PE-Purple		

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