Ocal®

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Thomas&Betts

Ocal®

A Tradition of High Standards in Corrosion Protection

OCAL-BLUE PVC coated conduit for superior corrosion protection

Corrosive elements cause millions of dollars in damage through lost time, materials, and labor. For years, our industry has searched for an answer to this expensive problem. OCAL Inc. has the solution.

OCAL-BLUE coating is a complete and total protection package for your entire conduit system. By encapsulating the conduit, OCAL prevents corrosion from striking weak points in your system. OCAL-BLUE is a complete system with more than 2,500 varieties of fittings in stock, as well as corrosion-resistant supports, and patching compounds.

OCAL-BLUE conduit and fittings have set quality standards throughout the electrical industry for over 35 years. OCAL Inc. has achieved its outstanding reputation through careful attention to every step of the manufacturing process. OCAL is unique in the industry. We start with 100% American-made steel pipe, and then fabricate and galvanize the product in our own facilities, before applying the PVC coating.

We maintain total quality control throughout the production process.

Only OCAL meets NEMA RN-1-1989 standard 2.1 which reads, *"Where unusually corrosive elements require additional protection, it is recommended that threads be zinc coated with a hot dipped process or equivalent."*

Only OCAL **hot dip galvanizes the threads** before coating them with blue urethane for double protection. **Hot dipped galvanizing is the process through which the iron pipe is dipped in molten zinc causing the zinc to alloy with the iron at the surface.**

LISTED – With No Disclaimers

File E46453

CERTIFIED

File 110787

- ***Only OCAL-BLUE Conduit is U.L. Listed with both the zinc coating and the PVC coating investigated and listed per U.L. 6.***
- ***Only OCAL supplies PVC coated conduit with hot dipped galvanized threads.***
- ***Only OCAL supplies PVC coated conduit with a full undisturbed zinc coating under the PVC coating.***
- ***Only OCAL fulfills the requirements of U.L. 6 regarding undisturbed zinc coating over the conduit.***
- ***Only OCAL PVC coated conduit is UL Listed for UV resistance.***

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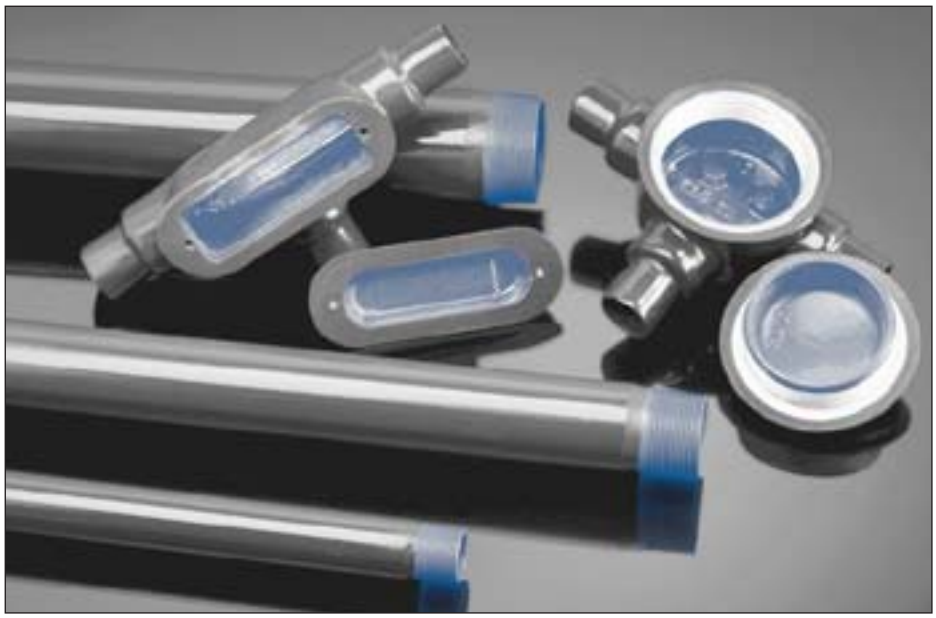
Get the OCAL-BLUE Advantage



Specify OCAL-BLUE coating wherever the environment is corrosive… OCAL-BLUE is a dense polyvinyl chloride coating with a minimum thickness of 0.04" (40 mil) on the exterior and a chemically-cured blue urethane coating with a nominal thickness of .002" (2 mil) on the interior and over the hot dipped galvanized threads.

Extra Corrosion Protection

OCAL-BLUE PVC coated conduit with blue urethane interior coating is the answer to internal corrosion.

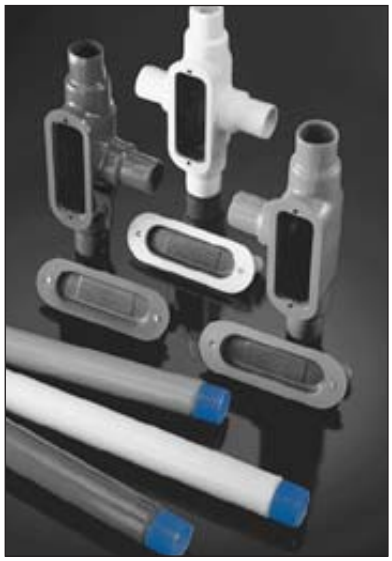
We start by manufacturing the rigid conduit and do our special "Hot Dipped" galvanizing after fabrication, alloying the zinc with the steel. The galvanizing is done after threading, making the industry's only "Hot Dipped" galvanized threads to provide the extra protection you need.

Our PVC compounds are made from primary materials without the addition of fillers or secondary materials. The end result is sealing characteristics that outperform any other corrosion prevention system.

The strong bond between the PVC coating and the metal substrate prevents any migration of corrosion under the coating. Chemically cured urethane is baked on for a tough finish that will not chip, peel, or crack and is very flexible. The OCAL-BLUE system permits bending, threading, and cutting without loss of any sealing characteristics.

OCAL offers a full line of fittings, elbows, wireways, light fixtures, panel boards, and other electrical accessories coated with the OCAL-BLUE process.

OCAL-BLUE Coated Conduit and Double-Coated Fittings give you total corrosion protection in colors to meet your requirements.



Specify OCAL-BLUE Coated Conduit and Fittings in the Following Applications:

- Chemical Plants
- Refineries
- Fertilizer Plants
- Steel Mills
- Pulp and Paper Mills
- Food and Dairy Facilities
- Offshore Platforms
- Cooling Towers
- Water and Waste Treatment Plants
- Pharmaceutical Facilities
- Breweries
- Salt Plants
- Electrical Substations
- Gas Transmission Lines
- And, many other corrosive environments

For Your Special Requirements

OCAL-BLUE PVC Coated Aluminum Conduit has the same corrosion protection qualities as regular OCAL-BLUE Conduit, except that it combines the OCAL-BLUE protection with lightweight copper-free aluminum conduit and fittings.

If color-coding is a requirement of your project, OCAL can produce all products in colors to meet your specifications.

Only OCAL manufactures its own PVC.
Only OCAL manufactures its own primer.

Many of the fittings OCAL coats are manufactured by Cooper Crouse-Hinds. However, OCAL also coats quality fittings from Thomas & Betts. If a specific manufacturer's product is required, please specify.

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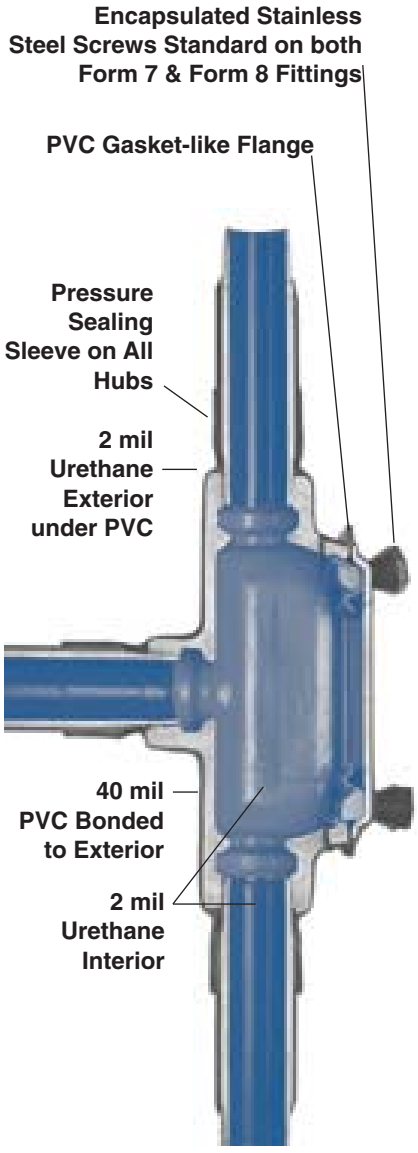
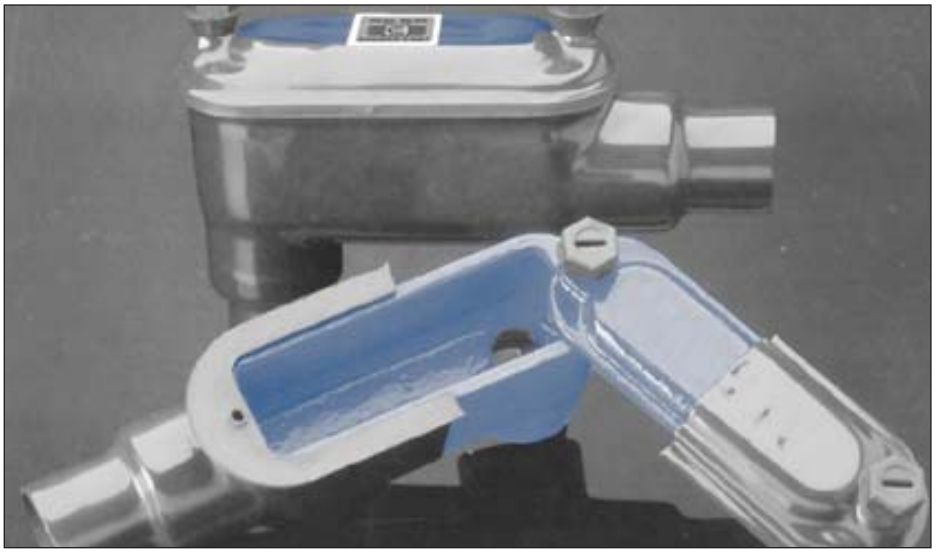
For Complete Corrosion Protection, Trust OCAL-BLUE Double-Coat Coated Fittings



Only OCAL supplies encapsulated screws on both Form 7 & Form 8 fittings.

OCAL has developed a process for coating the interior and exterior of all fittings with a nominal .002" (2 mil) of blue urethane, which is baked on. (The curing process may cause a slight darkening of the blue urethane.)



Superior Protection

This proprietary application of urethane enhances the corrosion protection of your system, even if you accidentally nick or cut the PVC coating during installation.

Flexible, overlapping sleeves on all OCAL fittings guarantee protection with a vapor- and moisture-tight seal at every connection.

Superior Service

Our reputation for dependability and customer service has made OCAL the most trusted name in corrosion protection for the electrical industry.

OCAL offers:

- Plant walkthroughs
- Installation training and certification
- Installation videos
- Installation tools
- The expertise to ensure that you get the maximum benefit of the OCAL-BLUE total protection system.
- For custom orders, special colors, or large quantities, OCAL's manufacturing capabilities guarantee delivery time unmatched in the industry.
- We protect each shipment with special packaging for damage-free delivery.

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OCAL-BLUE Steel Conduit

- The conduit is PVC Coated Steel.
- Blue urethane coating over threads.
- A minimum .040" (40 mil) PVC coating on the exterior.
- A nominal .002" (2 mil) blue urethane on the interior.
- Color coded thread protectors.
- Couplings shipped with conduit are packaged separately.

OCAL-BLUE Conduit

Size Inches Metric Size Designator*	Outside Diameter Steel Only Inches Millimeters	Outside Diameter With PVC Inches Millimeters	Nominal Wall Thickness Steel Only Inches Millimeters	Nominal Wall Thickness With PVC Inches Millimeters	Nominal Inside Diameter Inches Millimeters	Cross Section Area in Square Inches Millimeters	Length Without Couplings Feet Meters	Minimum Weight Per Foot Pounds Kilograms
½	.840	.920	.104	.144	.632	.304	9' 11¼"	.79
16	21.3	23.3	2.64	3.556	16.1	7.72	3.03	35.83
¾	1.050	1.130	.107	2.71	.836	.533	9' 11¼"	1.05
21	26.7	28.7	2.71	3.73	21.2	13.53	3.03	47.63
1	1.315	1.395	.126	.166	1.063	.864	9' 11"	1.53
27	33.4	35.4	3.20	4.21	27.0	21.94	3.02	69.40
1¼	1.660	1.740	.133	.173	1.394	1.495	9' 11"	2.01
35	42.2	44.1	3.37	4.39	35.4	37.97	3.02	91.17
1½	1.900	1.980	.138	.178	1.624	2.036	9' 11"	2.40
41	48.3	50.2	3.50	4.52	41.2	51.71	3.02	112.95
2	2.375	2.455	.146	.186	2.083	3.355	9' 11"	3.32
53	60.3	62.3	3.70	4.72	52.9	85.21	3.02	150.60
2½	2.875	2.955	.193	.233	2.489	4.788	9' 10½"	5.27
63	73.0	75.0	4.90	5.91	63.2	121.61	3.01	239.05
3½	3.500	3.580	.205	.245	3.090	7.393	9' 10½"	6.83
78	88.9	90.9	5.20	6.22	78.5	187.78	3.01	309.63
3	4.000	4.080	.215	.255	3.57	9.866	9' 10¼"	8.31
91	101.6	103.6	5.46	6.47	90.7	250.59	3.00	376.94
4	4.500	4.580	.225	.265	4.05	12.730	9' 10¼"	9.73
103	114.3	116.3	5.71	6.73	102.9	323.34	3.00	441.04
5	5.563	5.643	.245	.285	5.073	20.006	9' 10"	13.14
129	141.3	143.3	6.22	7.23	128.9	508.15	3.00	595.85
6	6.625	6.705	.266	.306	6.093	28.891	9' 10"	17.46
155	168.3	170.3	6.75	.777	154.8	733.83	3.00	791.67

NOTE – Inches and Pounds indicated in bold face type
Metric measure is directly below bold face type
*Metric size designator (ANSI C80.1-1994).

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File 110787

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OCAL-BLUE Couplings

- All couplings are coated with a nominal .002" (2 mil) blue urethane on the interior.
- A minimum .040" (40 mil) PVC coating is bonded to the exterior.
- Couplings have straight threads, not tapered.
- Molded ribs on outer coating.
- Couplings have pressure-sealing sleeves to protect the connection.

OCAL-BLUE Couplings

Coupling Size Inches Metric Size Designator*	Minimum Length of Metal Inches Millimeters	Total Minimum Length Including Sleeve Inches Millimeters	Weight in Pounds Kilograms
½	**1.500**	**3.7500**	**0.13**
16	38.1	95.25	.058
¾	**1.532**	**3.7500**	**0.19**
21	38.91	95.25	0.85
1	**1.906**	**4.9375**	**0.33**
27	48.41	139.70	.148
1¼	**1.906**	**5.5000**	**0.43**
35	48.41	139.70	.193
1½	**1.906**	**5.7500**	**0.56**
41	48.41	146.05	.252
2	**1.937**	**5.9370**	**0.77**
53	49.19	150.79	.346
2½	**2.878**	**6.8780**	**1.85**
63	73.10	174.70	.832
3	**3.031**	**7.0310**	**2.70**
78	76.98	178.58	1.215
3½	**3.094**	**7.0940**	**3.78**
91	78.58	180.18	1.701
4	**3.188**	**7.1880**	**3.08**
103	80.97	182.57	1.386
5	**3.374**	**7.3740**	**5.00**
129	85.69	187.29	2.250
6	**3.437**	**7.4370**	**8.00**
155	87.29	188.89	3.600

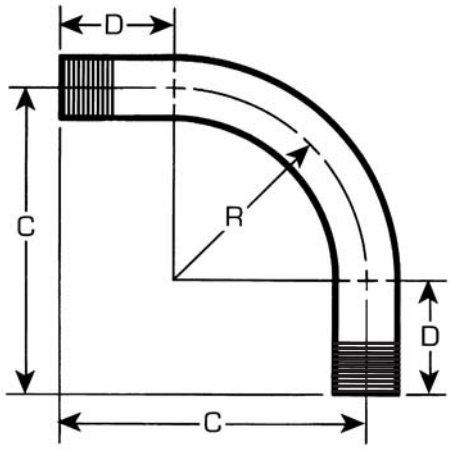
NOTE – Inches and Pounds indicated in bold face type
Metric measure is directly below bold face type
*Metric size designator (ANSI C80.1-1994).

OCAL-BLUE Elbows

OCAL-BLUE Standard and Large Radius Elbows

OCAL-BLUE standard and large radius elbows are factory bent to reduce the time and wasted materials that can result from field bending.

- OCAL-BLUE elbows are fabricated from OCAL coated conduit.
- Standard radiuses in 30°, 45°, 60°, and 90° are available for immediate shipment.
- Special radiuses and degrees not listed are also available upon request.
- Color coded thread protectors.



Standard Radius Elbows

Size		Radius "R"		Offset "C"		Straight End "D"		Unbent Length		Weight Per Each	
Inches	Metric Size Designator*	Inches	Millimeters	Inches	Millimeters	Inches	Millimeters	Inches	Millimeters	Pounds	Kilograms
½	16	4.00	101.6	6.50	165.1	2.12	53.848	11.25	285.75	0.73	.331
¾	21	4.50	114.3	7.25	184.15	2.75	69.85	12.50	317.5	1.07	.485
1	27	5.75	146.05	8.63	219.202	2.88	73.152	14.75	374.65	1.93	.875
1¼	35	7.25	184.15	10.44	265.176	3.19	81.026	17.75	450.85	2.85	1.293
1½	41	8.25	209.55	11.63	295.402	3.38	84.785	19.75	501.65	4.26	1.932
2	53	9.50	241.3	13.31	338.074	3.81	96.774	22.50	571.5	6.50	2.948
2½	63	10.50	266.7	16.50	419.1	5.75	146.05	28.00	711.2	11.50	5.216
3	78	13.00	330.2	18.75	476.25	5.79	147.066	32.00	812.8	18.00	8.165
3½	91	15.00	381.0	22.96	583.184	7.96	202.184	39.50	1003.3	26.25	11.907
4	103	16.00	406.4	23.18	588.772	7.96	202.184	39.50	1003.3	32.00	14.515
5	129	24.00	609.6	34.90	835.66	10.90	276.86	59.50	1511.3	70.00	31.752
6	155	30.00	762.0	43.44	1103.376	14.40	365.76	76.00	1930.4	100.00	45.36

Large Radius Elbows

Size		Radius "R"		Offset "C"		Straight End "D"		Unbent Length	
Inches	Metric Size Designator*	Inches	Millimeters	Inches	Millimeters	Inches	Millimeters	Inches	Millimeters
1 - 2½" incl.	27 - 63	12	304.8	1' 9"	533.4	9"	228.6	3' 0"	914.4
1 - 3" incl.	27 - 78	15	381.0	2' 0"	609.6	9"	228.6	3' 6"	1066.8
1 - 4" incl.	27 - 103	18	457.2	2' 4"	711.2	10"	254.0	4' 0"	1219.2
1 - 5" incl.	27 - 129	24	609.6	2' 11"	889.0	11"	279.4	4' 11"	1498.6
1 - 6" incl.	27 - 155	30	762.0	3' 5"	1041.4	11"	279.4	5' 9"	1752.6
1 - 6" incl.	27 - 155	36	914.4	3' 11"	1193.8	11"	279.4	6' 6"	1981.2
1 - 6" incl.	27 - 155	42	1066.8	4' 6"	1371.6	12"	304.8	7' 6"	2286.0
1 - 6" incl.	27 - 155	48	1219.2	5' 0"	1524.0	12"	304.8	8' 6"	2590.8
2½ - 6" incl.	63 - 155	60	1524.0	6' 0"	1828.8	12"	304.8	9' 10"	2997.2

* Metric size designator (ANSI C80.1-1994).

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OCAL-BLUE Nipples & Liquidtight Connectors

Nipples

- Nipples are made from coated conduit.
- Blue urethane coating over threads.
- A minimum .040" (40 mil) PVC coating on the exterior.
- A nominal .002" (2 mil) blue urethane on the interior.
- Color coded thread protectors.

OCAL-BLUE Conduit Nipples

Pipe Size		Nipple Length									
Inches	Metric Size Designator*	2" 50.8	2½" 63.5	3" 76.2	3½" 88.9	4" 101.6	5" 127.0	6" 152.4	8" 203.2	10" 254.0	12" 304.8
½	16										
¾	21										
1	27										
1¼	35										
1½	41										
2	53	N/A									
2½	63	N/A	N/A	N/A							
3	78	N/A	N/A	N/A							
3½	91	N/A	N/A	N/A	N/A						
4	103	N/A	N/A	N/A	N/A						
5	129	N/A	N/A	N/A	N/A	N/A					
6	155	N/A	N/A	N/A	N/A	N/A					

ST-1/2

PVC Coated
Straight Liquidtight

Liquidtight Connectors

- Double coated with a nominal .002" (2 mil) blue urethane on both the interior and exterior, before PVC coating is applied.
- A minimum of .040" (40 mil) PVC coating is bonded to the exterior.
- Pressure-sealing sleeves are designed to protect the connection.
- Available in straight, 45°, and 90°.
- Ocal uses genuine T&B liquidtight fittings to insure quality installations.

ST-1/2 90

PVC Coated
Liquidtight - 90° Angle

Liquidtight - Straight with Ground

5332GR

Liquidtight Connectors

Pipe Size				
Inches	Metric Size Designator*	Straight Cat. No.	45 Degree Cat. No.	90 Degree Cat. No.
⅜	12	ST 3/8	ST 3/8 45	ST 3/8 90
½	16	ST 1/2	ST 1/2 45	ST 1/2 90
¾	21	ST 3/4	ST 3/4 45	ST 3/4 90
1	27	ST 1	ST 1 45	ST 1 90
1¼	35	ST 1-1/4	ST 1-1/4 45	ST 1-1/4 90
1½	41	ST 1-1/2	ST 1-1/2 45	ST 1-1/2 90
2	53	ST 2	ST 2 45	ST 2 90
2½	63	ST 2-1/2	ST 2-1/2 45	ST 2-1/2 90
3	78	ST 3	ST 3 45	ST 3 90
4	103	ST 4	ST 4 45	ST 4 90

* Metric size designator (ANSI C80.1-1994).

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OCAL-BLUE Double-Coat Conduit Bodies

- Covers are coated with a molded flange to seal the conduit body.
- The conduit body is molded with a flat surface on its opening to seal with the cover.
- The conduit body and cover are double coated with a nominal .002". (2 mil) blue urethane on both the interior and exterior, before PVC coating is applied.
- A minimum of .040" (40 mil) PVC coating is bonded to the exterior.
- OCAL pressure-sealing sleeves on all threaded hubs.
- Shipped and priced with cover and encapsulated stainless steel screws.
- Covers available separately, designate "covers only" and specify correct form or mark.

Form 7 Cover

Form 8 Cover

Conduit Bodies

Shapes (Fittings shown uncoated)

	Metric Size Designator*	Style	½" 16	¾" 21	1" 27	1¼" 35	1½" 41	2" 53	2½" 63	3" 78	3½" 91	4" 103
	C	Form 7	**C17**	**C27**	**C37**	**C47**	**C57**	**C67**	**C77**	**C87**		
		Form 8	**C18**	**C28**	**C38**	**C448**	**C58**	**C68**	**C78**	**C88**		
		Mark 9*	**C19**	**C29**	**C39**	**C49**	**C59**	**C69**	**C789**	**C889**	**C1089**	**C989**
	L	Form 7	**L17**	**L27**	**L37**	**L47**	**L57**	**L67**				
		Double faced - may be used as LL or LR - has 2 openings.										
	LB	Form 7	**LB17**	**LB27**	**LB37**	**LB47**	**LB57**	**LB67**	**LB777**	**LB87**	**LB97**	**LB107**
		Form 8	**LB18**	**LB28**	**LB38**	**LB448**	**LB58**	**LB68**	**LB78**	**LB888**	**LB98**	**LB108**
		Mark 9*	**LB19**	**LB29**	**LB39**	**LB49**	**LB59**	**LB69**	**LB789**	**LB889**	**LB989**	**LB1089**
	LL	Form 7	**LL17**	**LL27**	**LL37**	**LL47**	**LL57**	**LL67**	**LL777**	**LL87**	**LL97**	**LL107**
		Form 8	**LL18**	**LL28**	**LL38**	**LL448**	**LL58**	**LL68**	**LL78**	**LL888**	–	–
		Mark 9*	**LL19**	**LL29**	**LL39**	**LL49**	**LL59**	**LL69**	**LL789**	**LL889**	**LL989**	**LL1089**
	LR	Form 7	**LR17**	**LR27**	**LR37**	**LR47**	**LR57**	**LR67**	**LR777**	**LR87**	**LR97**	**LR107**
		Form 8	**LR18**	**LR28**	**LR38**	**LR448**	**LR58**	**LR68**	**LR78**	**LR888**	–	–
		Mark 9*	**LR19**	**LR29**	**LR39**	**LR49**	**LR59**	**LR69**	**LR789**	**LR889**	**LR989**	**LR1089**
	T	Form 7	**T17**	**T27**	**T37**	**T47**	**T57**	**T67**	**T77**	**T87**	**T97**	**T107**
		Form 8	**T18**	**T28**	**T38**	**T448**	**T58**	**T68**	**T78**	**T88**	–	–
		Mark 9*	**T19**	**T29**	**T39**	**T49**	**T59**	**T69**	**T789**	**T889**	**T989**	**T1089**
	TB	Form 7	**TB17**	**TB27**	**TB37**	**TB47**	**TB57**	**TB67**				
		Form 8	**TB18**	**TB28**	**TB38**	**TB448**	**TB58**	**TB68**				
		Mark 9*	**TB19**	**TB29**	**TB39**	**TB49**	–	–				
	X	Form 7	**X17**	**X27**	**X37**	**X47**	**X57**	**X67**				
		Form 8	**X18**	**X28**	**X38**	**X448**	**X58**	**X68**				
		Mark 9*	**X19**	**X29**	**X39**	–	–	–				

NOTE – Inches indicated in bold face type * Metric size designator (ANSI C80.1-1994).
Metric measure is directly below bold face type and are also in bold.

Cat. No.	Color	Manufacturer
LB17	**G**	**-1**
	G = Gray **R = Red** **W = White** **B = Blue** *** Custom Colors Available**	**-1 = T&B** **Blank = Other Manufacturer**

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OCAL-BLUE Double-Coat GUA Series Conduit Bodies

GUA series conduit bodies are installed within hazardous area locations to protect conductors in threaded rigid conduit, act as pull and splice boxes, provide access to conductors for maintenance and future system changes, act as mounting outlets for fixtures (with proper covers), or change conduit direction.

- Double coated with a nominal .002" (2 mil) blue urethane on both the interior and exterior, before PVC coating is applied.
- A minimum .040 (40 mil) PVC coating is bonded to the exterior.
- OCAL pressure-sealing sleeves on all threaded hubs.

Conduit Bodies

Conduit Size		Cover Opening	Type					
Inches	Metric Size Designator*		GUA	GUAC	GUAT	GUAX	GUAB	Cover Only
½	16	2	GUA14	GUAC14	GUAT14	GUAX14	GUAB14	GUA04
¾	21	2	GUA24	GUAC24	GUAT24	GUAX24	GUAB24	GUA04
½	16	3	GUA16	GUAC16	GUAT16	GUAX16	GUAB16	GUA06
¾	21	3	GUA26	GUAC26	GUAT26	GUAX26	GUAB26	GUA06
1	27	3	GUA36	GUAC36	GUAT36	GUAX36	GUAB36	GUA06
1	27	3⅝	–	–	GUAT37	GUAX37	–	GUA07
1¼	35	3⅝	GUA47	GUAC47	GUAT47	GUAX47	GUAB47	GUA07
1¼	35	5	–	GUAC49	GUAT49	GUAX49	–	GUA09
1½	41	5	GUA59	GUAC59	GUAT59	GUAX59	GUAB59	GUA09
2	53	5	–	GUAC69	GUAT69	GUAX69	GUAB69	GUA09

* Metric size designator (ANSI C80.1-1994).

GUAC

(Fittings shown uncoated)

GUAT

GUAX

Cat. No.	Color	Manufacturer
LB17	G	-1
	G = Gray R = Red W = White B = Blue * Custom Colors Available	-1 = T&B Blank = Other Manufacturer

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OCAL-BLUE Double-Coat GUA Series Conduit Bodies

GUAB

GUAD

Conduit Bodies

Conduit Size		Cover Opening	Type					
Inches	Metric Size Designator*		GUAD	GUAL	GUAM	GUAN	GUAW	Cover Only
½	16	2	GUAD14	GUAL14	GUAM14	GUAN14	GUAW14	GUA04
¾	21	2	GUAD24	GUAL24	GUAM24	GUAN24	GUAW24	GUA04
½	16	3	GUAD16	GUAL16	GUAM16	GUAN16	GUAW16	GUA06
¾	21	3	GUAD26	GUAL26	GUAM26	GUAN26	GUAW26	GUA06
1	27	3	GUAD36	GUAL36	GUAM36	GUAN36	–	GUA06
1¼	35	3⅝	–	GUAL47	GUAM47	GUAN47	–	GUA07
1¼	35	5	GUA49	GUAL49	–	–	–	GUA09
1½	41	5	–	GUAL59	–	GUAN59	–	GUA09
2	53	5	–	GUAL69	GUAM69	GUAN69	–	GUA09

* Metric size designator (ANSI C80.1-1994).

GUAN

GUAW

(Fittings shown uncoated)

Cat. No.	Color	Manufacturer
LB17	G	-1
	G = Gray R = Red W = White B = Blue * Custom Colors Available	-1 = T&B Blank = Other Manufacturer

Thomas&Betts

Aluminum Outlet Boxes and Covers – Hazardous Locations


GAC


GAE


GAL


GALB


GAT

(Fittings shown uncoated)

External Hubs with Installed Green Ground Screw

Through Feed with Surface Cover

Cat. No.	Hub Size	Unit Quan.	Std. Pkg.	Wt. lbs. per 100
◗ GAC-1	½"	1	5	115
◗ GAC-2	¾"	1	5	115
◗• GAC-3	1"	1	5	115
◗• GAC-4	1¼"	1	5	175
◗• GAC-5	1½"	1	4	247
◗• GAC-6	2"	1	4	253

Dead End with Surface Cover

Cat. No.	Hub Size	Unit Quan.	Std. Pkg.	Wt. lbs. per 100
◗ GAE-1	½"	1	5	110
◗ GAE-2	¾"	1	5	110
◗• GAE-3	1"	1	5	110

L Style with Surface Cover

Cat. No.	Hub Size	Unit Quan.	Std. Pkg.	Wt. lbs. per 100
◗ GAL-1	½"	1	5	115
◗ GAL-2	¾"	1	5	115
◗• GAL-3	1"	1	5	115
◗• GAL-4	1¼"	1	5	175
◗• GAL-5	1½"	1	4	247
◗• GAL-6	2"	1	4	253

LB Style with Surface Cover

Cat. No.	Hub Size	Unit Quan.	Std. Pkg.	Wt. lbs. per 100
◗ GALB-1	½"	1	5	115
◗ GALB-2	¾"	1	5	115
◗ GALB-3	1"	1	5	115
◗ GALB-4	1¼"	1	5	175
◗• GALB-5	1½"	1	4	247
◗• GALB-6	2"	1	4	253

T Style with Surface Cover

Cat. No.	Hub Size	Unit Quan.	Std. Pkg.	Wt. lbs. per 100
◗ GAT-1	½"	1	5	120
◗ GAT-2	¾"	1	5	120
◗ GAT-3	1"	1	5	120
◗ GAT-4	1¼"	1	5	180
◗ GAT-5	1½"	1	4	48
◗ GAT-6	2"	1	4	406

• Made to order items. Consult factory for lead time and minimum quantities.
◗ Suffix-OR: O-ring available for NEMA 4 rating. Consult factory for lead time and price.

Cat. No.	Color
LB17	G

G = Gray, R = Red, W = White, B = Blue
* Custom Colors Available

Thomas&Betts

Aluminum Outlet Boxes and Covers – Hazardous Locations


GAX


GAFX


GAS


GAD


GAJU


GAJ

(Fittings shown uncoated)

External Hubs with Installed Green Ground Screw, Covers and Plugs

X Style with Surface Cover

Cat. No.	Hub Size	Unit Quan.	Std. Pkg.	Wt. lbs. per 100
† GAX-1	½"	1	5	125
† GAX-2	¾"	1	5	125
† GAX-3	1"	1	5	125
† • GAX-4	1¼"	1	5	210
† • GAX-5	1½"	1	4	257
† • GAX-6	2"	1	4	413

X Style with Flange and Surface Cover

Cat. No.	Hub Size	Unit Quan.	Std. Pkg.	Wt. lbs. per 100
† GAFX-1	½"	1	4	135
† GAFX-2	¾"	1	4	135
† GAFX-3	1"	1	4	135

Surface Style Cover

Cat. No.	Cover Opening	Fits Boxes	Std. Pkg.	Wt. lbs. per 100
• GAS-123	3 11/16"	½", ¾", 1"	1	36
• GAS-4	3 29/32"	1¼"	1	52
• GAS-56	5 3/16"	1½", 2"	1	69

Dome Style Cover (Class I, Group D only)

Cat. No.	Cover Opening	Fits Boxes	Inside Height	Std. Pkg.	Wt. lbs. per 100
• GAD-123	3 11/16"	½", ¾", 1"	2 5/8"	1	71

U Style with Canopy Cover

Cat. No.	Hub Size	Unit Quan.	Std. Pkg.	Wt. lbs. per 100
• GAJU-1	½"	1	5	130
• GAJU-2	¾"	1	5	130
GAJU-3	1"	1	5	130
• GAJU-5	1½"	1	1	267
GAJU-6	2"	1	1	273

Canopy Style Cover

Cat. No.	Cover Opening	Fits Boxes	Unit Quan.	Std. Pkg.	Wt. lbs. per 100
• GAJ-123	3 11/16"	½", ¾", 1"	1	10	44
• GAJ-4	3 29/32"	1¼"	1	5	61
• GAJ-56	5 3/16"	1½", 2	1	5	78

• Made to order items. Consult factory for lead time and minimum quantities.

† Suffix-OR: O-ring available for NEMA 4 rating. Consult factory for lead time and price.

Cat. No.	Color
LB17	G

G = Gray, R = Red, W = White, B = Blue
* Custom Colors Available

Thomas&Betts

Ocal®

OCAL-BLUE Double-Coat Sealing Fittings

Sealing fittings restrict the passage of gases, vapors, or flames from one portion of the electrical installation to another at atmospheric pressure and normal ambient temperatures. They prevent precompression or “pressure piling” in conduit systems.

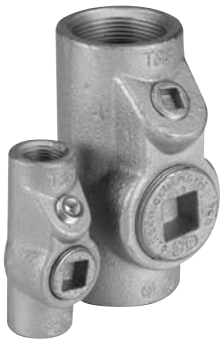
- Double coated with a nominal .002" (2 mil) blue urethane on both the interior and exterior, before PVC coating is applied.
- A minimum of .040" (40 mil) PVC coating is bonded to the exterior.

Sealing Fittings

		EYS & EYSX**				EYD & EYDX**		EZS		EZD
		Vertical		Vertical of Horizonal						
Inches	Metric Size Designator*	Female	Male & Female	Female	Male & Female	Female	Male & Female	Female	Male & Female	
		Cat. No.								
½	16	EYS1	EYS16	EYS11	EYS116	EYD1	EYD16	EZS1	EZS16	EZD10
¾	21	EYS2	EYS26	EYS21	EYS216	EYD2	EYD26	EZS2	EZS26	EZD20
1	27	EYS3	EYS36	EYS31	EYS316	EYD3	EYD36	EZS3	EZS36	EZD30
1¼	35	–	–	EYS4	EYS46	EYD4	EYD46	EZS4	EZS46	EZD40
1½	41	–	–	EYS5	EYS56	EYD5	EYD56	EZS5	EZS56	EZD50
2	53	–	–	EYS6	EYS66	EYD6	EYD66	EZS6	EZS66	EZD60
2½	63	–	–	EYS7	EYS76	EYD7	EYD76	EZS7	EZS76	–
3	78	–	–	EYS8	EYS86	EYD8	EYD86	EZS8	EZS86	–
3½	91	–	–	EYS9	EYS96	EYD9	EYD96	–	–	–
4	103	–	–	EYS10	EYS106	EYD10	EYD106	–	–	–

* Metric size designator (ANSI C80.1-1994).

** EYSX and EYDX are expanded fill styles. When ordering add X to part number. Example EYSX31, EYDX31



EYS

EYD

EZS

EZD
with Inspection Cover

(Fittings shown uncoated)

Cat. No.	Color
LB17	G

G = Gray, R = Red, W = White, B = Blue
* Custom Colors Available

Double-Coat FS and FD Series Boxes

FS

FSC

FSR

FSL

Boxes installed in conduit systems to accommodate wiring devices, act as pull boxes for conductors, provide openings to make splices and taps, and provide access to conductors for maintenance and future system changes.

- Double coated with a nominal .002" (2 mil) blue urethane on both the interior and exterior, before PVC coating is applied.
- A minimum .040" (40 mil) PVC coating bonded to exterior.
- Pressure sealing sleeves to protect the connection with conduit.

Conduit Bodies

			Hub Configuration			
Style	Inches	Metric Size Designator*	Dead End	Feed Thru	Hub Right	Hub Left
Shallow	½	16	**FS1**	**FSC1**	**FSR1**	**FSL1**
Shallow	¾	21	**FS2**	**FSC2**	**FSR2**	**FSL2**
Shallow	1	27	**FS3**	**FSC3**	–	–
Deep	½	16	**FD1**	**FDC1**	**FDR1**	**FDL1**
Deep	¾	21	**FD2**	**FDC2**	**FDR2**	**FDL2**
Deep	1	27	**FD3**	**FDC3**	–	–

* Metric size designator (ANSI C80.1-1994).

FS & FD Series Covers

Cat. No.	Description	Material
DS23	Duplex Receptacle Cover	Steel
DS21G	Round Flush Receptacle Cover	Iron
DS32G	Toggle Switch Cover	Iron
DS100G	Blank Cover	Iron

DS23

DS21G

DS32G

DS100G

(Boxes and Covers shown uncoated)

Cat. No.	Color
LB17	**G**

G = Gray, R = Red, W = White, B = Blue
*** Custom Colors Available**

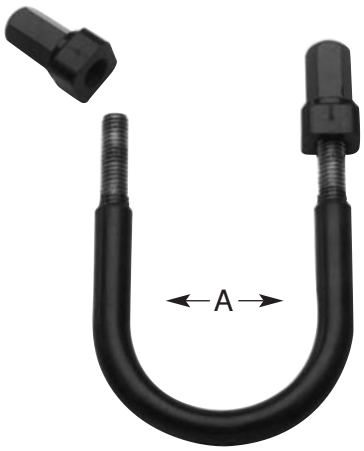
Thomas&Betts

 www.tnb.com

OCAL Beam Clamps

Right Angle

Edge



U Bolt

Parallel

- Beam clamps are used to support and attach conduit runs to structural beams.
- RA clamps and U bolts are molded to provide extra protection.
- Nuts are encapsulated, providing complete protection.
- Nuts are hex shaped to fit standard wrenches.
- The coating is evenly molded around the saddle which only OCAL provides to prevent exposure to metal.

Beam Clamps

Pipe Size				
Inches	Metric Size Designator*	Right Angle	Parallel	Edge
½	16	**RA 1/2**	**PAR 1/2**	**EC 1/2**
¾	21	**RA 3/4**	**PAR 3/4**	**EC 3/4**
1	27	**RA1**	**PAR1**	**EC1**
1¼	35	**RA1-1/4**	**PAR1-1/4**	**EC1-1/4**
1½	41	**RA1-1/2**	**PAR1-1/2**	**EC1-1/2**
2	53	**RA2**	**PAR2**	**EC2**
2½	63	**RA2-1/2**	**PAR2-1/2**	**–**
3	78	**RA3**	**PAR3**	**–**
3½	91	**RA3-1/2**	**PAR3-1/2**	**–**
4	103	**RA4**	**PAR4**	**–**

U Bolts

Pipe Size		A Dimensions	
Inches	Metric Size Designator*	Inches	Millimeters
½	16	1⅜	34.925
¾	21	1⁹⁄₁₆	39.687
1	27	1²⁷⁄₃₂	46.832
1¼	35	2³⁄₁₆	55.562
1½	41	2½	63.500
2	53	2³¹⁄₃₂	75.407
2½	63	3¹⁵⁄₃₂	88.107
3	78	4³⁄₃₂	103.982
3½	91	4¹⁹⁄₃₂	116.682
4	103	5³⁄₃₂	129.382
5	129	6⅝	168.275
6	155	8	203.200

* Metric size designator (ANSI C80.1-1994).

Cat. No.	Color
LB17	**G**

G = Gray, R = Red, W = White, B = Blue
*** Custom Colors Available**

OCAL Clamp Back Spacers

- .040" (40 mil) PVC coating.
- Used with one-hole straps as spacers.

Clamp Back Spacers

Pipe Size		
Inches	Metric Size Designator*	Cat. No.
½	16	BACKCLAMP 1/2
¾	21	BACKCLAMP 3/4
1	27	BACKCLAMP1
1¼	35	BACKCLAMP1-1/4
1½	41	BACKCLAMP1-1/2
2	53	BACKCLAMP2
2½	63	BACKCLAMP2-1/2
3	78	BACKCLAMP3
3½	91	BACKCLAMP3-1/2
4	103	BACKCLAMP4

OCAL Pipe Straps

- .040" (40 mil) PVC coating.
- Sized to allow for the extra coating thickness.
- Used to support OCAL-BLUE conduit on walls and structures.

Pipe Straps

Pipe Size			
Inches	Metric Size Designator*	One Hole Malleable	Two Hole Stamped
½	16	1HMS 1/2	2HS 1/2
¾	21	1HMS 3/4	2HS 3/4
1	27	1HMS1	2HS1
1¼	35	1HMS1-1/4	2HS1-1/4
1½	41	1HMS1-1/2	2HS1-1/2
2	53	1HMS2	2HS2
2½	63	1HMS2-1/2	2HS2-1/2
3	78	1HMS3	2HS3
3½	91	1HMS3-1/2	2HS3-1/2
4	103	1HMS4	2HS4

* Metric size designator (ANSI C80.1-1994).

Cat. No.	Color
LB17	G

G = Gray, R = Red, W = White, B = Blue
* Custom Colors Available

OCAL-BLUE Double-Coat Pulling Elbows and Mogul Fittings

LBD

For Hazardous Areas

LBH

*Metric size designator (ANSI C80.1-1994),

(Fitting shown uncoated)

OCAL-BLUE Double-Coat Pulling Elbows

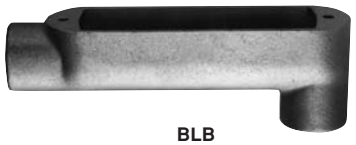
LBD and LBH bodies are installed at 90° bends in rigid conduit to act as pull outlets for conductors that are stiff due to large size or type of insulation, and to make 90° bends in conduit system allowing straight pull in either direction.

- Double coated with a nominal .002" (2 mil) blue urethane on both the interior and exterior, before PVC coating is applied.
- A minimum of .040" (40 mil) PVC coating is bonded to the exterior.
- Pressure-sealing sleeve to seal the connection.

Pulling Elbows

Pipe Size		LBD	LBH
Inches	Metric Size Designator*	Cat. No.	Cat. No.
½	16	LBD1100	LBH10
¾	21	LBD2200	LBH20
1	27	LBD3300	LBH30
1¼	35	LBD4400	LBH40
1½	41	LBD5500	LBH50
2	53	LBD6600	LBH60
2½	63	LBD7700	LBH70
3	78	LBD8800	LBH80
3½	91	LBD9900	LBH90
4	103	LBD10900	LBH100
5	129	LBD012	
6	155	LBD014	

BUB Mogul



BLB

BT

BLB, BT, and BC

(Fittings shown uncoated)

OCAL-BLUE Double-Coat Mogul Fittings

Mogul fittings are installed in conduit systems to act as pull outlets for conductors that are stiff due to large size or type of installation, provide the longer openings needed when pulling large conductors, prevent sharp bends and kinks in large conductors, or to provide more splicing space.

- Double coated with a nominal .002" (2 mil) blue urethane on both the interior and exterior, before PVC coating is applied.
- A minimum of .040" (40 mil) PVC coating is bonded to the exterior.
- Pressure-sealing sleeves to protect the connection.

Mogul Fittings

Pipe Size		BC	BLB	BUB	BT	BG COVER
Inches	Metric Size Designator*	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
1	27	BC3	BLB3	BUB3	BT3	BG47
1¼	35	BC4	BLB4	BUB4	BT4	BG47
1½	41	BC5	BLB5	BUB5	BT5	BG67
2	53	BC6	BLB6	BUB6	BT6	BG67
2½	63	BC7	BLB7	BUB7	BT7	BG87
3	78	BC8	BLB8	BUB8	BT8	BG87
3½	91	BC9	BLB9	BUB9	BT9	BG97
4	103	BC10	BLB10	BUB10	BT10	BG97

* Metric size designator (ANSI C80.1-1994).

Cat. No.	Color
LB17	G

G = Gray, R = Red, W = White, B = Blue
* Custom Colors Available

Thomas&Betts

OCAL-BLUE Double-Coat Service Entrance and Malleable Elbows

LBY

OCAL-BLUE Double-Coat Service Entrance Elbows

LBY elbows are installed in conduit systems within hazardous areas to make 90° bends in conduit systems where space is limited, act as pull outlets, and to provide access to conductors for maintenance and future system changes.

- Double coated with a nominal .002" (2 mil) blue urethane on both the interior and exterior, before PVC coating is applied.
- A minimum .040" (40 mil) PVC coating is bonded to the exterior.
- Pressure-sealing sleeves to protect the connection.

Service Entrance Elbows

Pipe Size		Cat. No.
Inches	Metric Size Designator*	
½	16	**LBY15**
¾	21	**LBY25**
1	27	**LBY35**
1¼	35	**LBY45**
1½	41	**LBY55**

EL

EL

OCAL-BLUE Double-Coat Malleable Elbows

EL elbows are installed at the end of conduit runs, or in a box or a fitting hub to change direction in threaded rigid conduit run by 45° or 90°, or when terminating at a box or fitting.

- Double coated with a nominal .002" (2 mil) blue urethane on both the interior and exterior, before PVC coating is applied.
- A minimum .040" (40 mil) PVC coating is bonded to the exterior.
- Pressure-sealing sleeves to protect the connection.

Malleable Elbows

Pipe Size		90° Male Cat. No.	90° Female Cat. No.	90° Male-Female Cat. No.	45° Female Cat. No.
Inches	Metric Size Designator*				
½	16	**EL195**	**EL19**	**EL196**	**EL1**
¾	21	**EL295**	**EL29**	**EL296**	**EL2**
1	27	**EL395**	**EL39**	**EL396**	**EL3**
1¼	35	–	**EL49**	**EL496**	**EL4**
1½	41	–	**EL59**	–	**EL5**
2	53	–	**EL69**	–	**EL6**
2½	63	–	**EL79**	–	**EL7**
3	78	–	–	–	**EL8**
3½	91	–	–	–	**EL9**
4	103	–	–	–	**EL10**

* Metric size designator (ANSI C80.1-1994).

Cat. No.	Color
LB17	**G**

G = Gray, R = Red, W = White, B = Blue
*** Custom Colors Available**

Thomas&Betts

 www.tnb.com

OCAL-BLUE Double-Coat Hubs and Split Couplings

HUB
Standard Hub

- ***Innovative sealing ring and groove.***
- ***Hexagonal body and locknut design.***
- ***Insulated throat.***
- ***Sharper and deeper teeth.***

OCAL-BLUE Double-Coat Hubs

- Coated with a nominal .002" (2 mil) blue urethane on the interior, before PVC coating is applied.
- A minimum .040" (40 mil) PVC coating is bonded to the exterior.
- Pressure-sealing sleeves to protect the connection.

Knockout Hubs

Pipe Size		Hub	STG	STTB	STTTB
Inches	Metric Size Designator8	Cat. No.	Cat. No.	Cat. No.	Cat. No.
½	16	HUB1/2	STG1	STTB1	STTTB1
¾	21	HUB3/4	STG2	STTB2	STTTB2
1	27	HUB1	STG3	STTB3	STTTB3
1¼	35	HUB1-1/4	STG4	STTB4	STTTB4
1½	41	HUB1-1/2	STG5	STTB5	STTTB5
2	53	HUB2	STG6	STTB6	STTTB6
2½	63	HUB2-1/2	STG7	STTB7	–
3	78	HUB3	STG8	STTB8	–
3½	91	HUB3-1/2	STG9	STTB9	–
4	103	HUB4	STG10	STTB10	–
5	129	HUB5	STG11	STTB11	–
6	155	HUB6	STG12	STTB12	–

OCAL-BLUE Double-Coat Split Couplings

A split coupling is a speed union used to economically join two lengths of threaded conduit.

- Double coated with a nominal .002" (2 mil) blue urethane on both the interior and exterior, before PVC coating is applied.
- A minimum .040" (40 mil) PVC coating is bonded to the exterior.

TCC
Split Coupling

Split Couplings

Pipe Size		
Inches	Metric Size Designator*	Cat. No.
½	16	TCC1
¾	21	TCC2
1	27	TCC3
1¼	35	TCC4
1½	41	TCC5
2	53	TCC6
2½	63	TCC7
3	78	TCC8
3½	91	TCC9
4	103	TCC10
5	129	TCC12
6	155	TCC14

* Metric size designator (ANSI C80.1-1994).

Cat. No.	Color
LB17	G

G = Gray, R = Red, W = White, B = Blue
* Custom Colors Available

Thomas&Betts

Ocal®
OCAL-BLUE Double-Coat Unions

UNY and UNF unions are installed in threaded thick-wall conduit systems in hazardous areas. UNY unions are used to connect conduit to a conduit fitting, junction box, or device enclosure. UNF unions are used to connect conduit to conduit, or to provide a means for future modifications to the conduit system.

- Double coated with a nominal .002" (2 mil) blue urethane on both the interior and exterior, before PVC coating is applied.
- A minimum of .040" (40 mil) PVC coating is bonded to the exterior.
- Pressure-sealing sleeves to protect the connection.

½" - 4"

5" - 6"

UNY Male

(Fittings shown uncoated)

Conduit Unions

Pipe Size		UNF	UNY
Inches	Metric Size Designator*	Cat. No.	Cat. No.
½	16	UNF105	UNY105
¾	21	UNF205	UNY205
1	27	UNF305	UNY305
1¼	35	UNF405	UNY405
1½	41	UNF505	UNY505
2	53	UNF605	UNY605
2½	63	UNF705	UNY705
3	78	UNF805	UNY805
3½	91	UNF905	UNY905
4	103	UNF1005	UNY1005
5	129	UNF012	UNY012
6	155	UNF014	UNY014

* Metric size designator (ANSI C80.1-1994).

½" - 4"

5" - 6"

UNF Female

Cat. No.	Color
LB17	G

G = Gray, R = Red, W = White, B = Blue
* Custom Colors Available

Thomas&Betts

Ocal®

OCAL-BLUE Double-Coat Reducing Couplings

- Integral bushings in both ends to prevent damage to wires.
- Funnel-shaped interior to guide wires from large to small conduit, making it easy to pull the wires.
- Double coated with a nominal .002" (2 mil) blue urethane on both the interior and exterior, before PVC coating is applied.
- A minimum .040" (40 mil) PVC coating is bonded to the exterior.
- Pressure-sealing sleeves to protect the connection.

Reducing Couplings

Pipe Size		Cat. No.
Inches	Metric Size Designator*	
¾ - ½	21 - 16	REC21
1 - ½	27 - 16	REC31
1 - ¾	27 - 21	REC32
1¼ - ¾	35 - 21	REC42
1¼ - 1	35 - 27	REC43
1½ - ¾	41 - 21	REC52
1½ - 1	41 - 27	REC53
1½ - 1¼	41 - 35	REC54
2 - ¾	53 - 21	REC602
2 - 1	53 - 27	REC603
2 - 1¼	53 - 35	REC604
2 - 1½	53 - 41	REC605
2½ - 1½	63 - 41	REC75
3 - 2	78 - 53	REC86
3½ - 2½	91 - 63	REC97
4 - 3	103 - 78	REC108
5 - 4	129 - 103	REC01210

* Metric size designator (ANSI C80.1-1994).

Cat. No.	Color
LB17	G

G = Gray, R = Red, W = White, B = Blue
* Custom Colors Available

(Fitting shown uncoated)

Reducing Bushings – Urethane Coating Only

Cat. No.	A Male (NPT)	B Female (NPT)
RE21-TB	¾	½
RE31-TB	1	½
RE32-TB	1	¾
RE41-TB	1¼	½
RE42-TB	1¼	¾
RE43-TB	1¼	1
RE51-TB	1½	½
RE52-TB	1½	¾
RE53-TB	1½	1
RE54-TB	1½	1¼
RE61-TB	2	½
RE62-TB	2	¾
RE63-TB	2	1
RE64-TB	2	1¼
RE65-TB	2	1½
RE73-TB	2½	1
RE74-TB	2½	1¼
RE75-TB	2½	1½

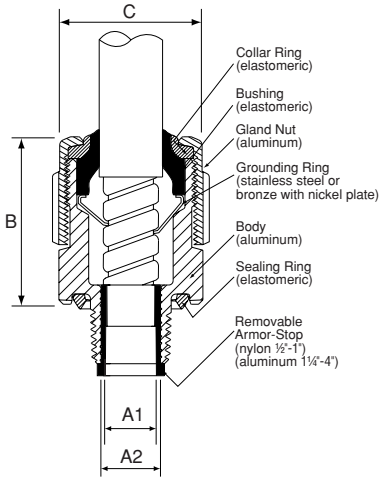
Cat. No.	A Male (NPT)	B Female (NPT)
RE76-TB	2½	2
RE83-TB	3	1
RE84-TB	3	1¼
RE85-TB	3	1½
RE86-TB	3	2
RE87-TB	3	2½
RE96-TB	3½	2
RE97-TB	3½	2½
RE98-TB	4	3
RE106-TB	4	2
RE107-TB	4	2½
RE108-TB	4	3

Thomas&Betts

STE Series
Ordinary

STEX Series
Hazardous Locations

(Fittings shown uncoated)



Cat. No.	Hub Size a.p.†	Strip Length	Gland Torque (lb.-In.)	Range Over Jacket Min.	Range Over Jacket Max.	Range Over Armor Min.	Range Over Armor Max.	A1: Throat Dia. Min. w/End Stop	A2: Throat Dia. Min. wo/End Stop	B* Overall	C Max. Alum.
Ordinary											
ST050-462*	½	1¼	300	.525	.650	.415	.570	N/A*	.395	2.020	1.224
STE050*	½	1¼	300	.600	.985	.520	.895	.505	.612	2.650	1.630
STE075*	¾	1¼	600	.860	1.205	.780	1.125	.655	.816	2.900	2.080
STE100*	1	1¼	700	.950	1.375	.870	1.295	.785	1.044	3.020	2.300
STE125*	1¼	1¼	1000	1.150	1.625	.990	1.465	.970	1.250	4.010	2.820
STE150*	1½	1¾	1200	1.440	1.965	1.280	1.805	1.260	1.562	4.290	3.250
STE200*	2	1¾	1600	1.825	2.375	1.665	2.215	1.645	1.995	4.120	3.600
STE250	2½	2½	1600	2.865	2.810	2.105	2.680	2.075	2.424	5.320	4.750
STE300	3	2½	1600	2.670	3.270	2.545	3.145	2.531	2.890	5.400	5.400
STE350	3½	2½	1600	3.220	3.870	3.090	3.640	3.065	3.460	5.360	5.900
STE400	4	2½	1600	3.665	4.340	3.550	4.225	3.525	3.941	5.415	6.400
Hazardous Locations											
STX050-462*	½	1¼	300	.525	.650	.415	.570	N/A*	.395	2.500	1.630
STX050-464*	½	1¼	300	.600	.760	.490	.680	N/A*	.485	2.530	1.630
STEX075*	¾	1¼	600	.600	.985	.520	.895	.504	.678	3.400	1.820
STEX100*	1	1¼	700	.860	1.205	.780	1.125	.650	.833	3.580	2.300
STEX125*	1¼	1¼	1000	.950	1.375	.870	1.295	.834	1.065	3.920	2.510
STEX150*	1½	1¾	1200	1.150	1.625	.990	1.465	.958	1.273	5.020	3.260
STEX200*	2	1¾	1600	1.440	1.965	1.280	1.805	1.250	1.560	5.120	3.620
STEX250	2½	2½	1600	1.825	2.375	1.665	2.215	1.640	1.995	5.170	4.580
STEX300	3	2½	1600	2.265	2.840	2.105	2.680	2.075	2.461	6.610	5.100
STEX350	3½	2½	1600	2.670	3.270	2.545	3.145	2.531	2.864	7.380	5.790
STEX400	4	2½	1600	3.220	3.870	3.090	3.640	3.055	3.461	7.650	6.190
STEX400-484	4	–	1600	3.810	4.030	3.680	3.870	–	–	–	–
STEX400-485	4	–	1600	3.965	4.185	3.835	4.025	–	–	–	–

To specify other material, add the appropriate suffix to the category number.

Desired Material	Suffix	Example
Aluminum fitting with ground lock nut	GR	STE-050GR
Steel with zinc plate	S	STE-050S
Brass with nickle plate	BN	STE-050BN
Aluminum with-pvc coating	PVC	STE-050PVC
Steel with pvc coating	S-PVC	STE-050S-PVC
Stainless steel	SS	STE-050SS

UL Listed #84H3
* These products are UL Listed
Watertight NEMA Type 6P.
*The ½ fittings do not have a removable armor stop.

Sealing Compounds – Used for Hazardous Locations

Cat. No.	Description	Volume
SC4-KIT	Liquid type sealing compound for use in control cable applications	2.8 fl. oz.
SC65	Putty Type Sealing Compound	60 grams

Cat. No.	Color
LB17	**G**

G = Gray, R = Red, W = White, B = Blue
*** Custom Colors Available**

Thomas&Betts

 www.tnb.com

PVC Coated Steel Strut

PVC Coated Steel Strut

Style	Dimensions Inches W	H	Metric Size W	H	Cat. No.
Back to Back	1⅝	x 3¼	41.275	x 82.550	**A12A**
Standard	1⅝	x 1⅝	41.275	x 41.275	**A12**
Standard Punched	1⅝	x 1⅝	41.275	x 41.275	**A12P**
Shallow	1⅝	x 13⁄16	41.275	x 20.637	**C14**
Shallow Punched	1⅝	x 13⁄16	41.275	x 20.637	**C14P**

Cat. No.	Color
LB17	**G**

G = Gray, R = Red, W = White, B = Blue
*** Custom Colors Available**

Stainless Steel Strut

316 Stainless Steel Strut

Style	Dimensions Inches W	H	Metric Size W	H	Cat. No.
Back to Back	1⅝	x 3¼	41.275	x 82.550	**P1001SS**
Standard	1⅝	x 1⅝	41.275	x 41.275	**P1000SS**
Standard Punched	1⅝	x 1⅝	41.275	x 41.275	**P1000HS SS**
Shallow	1⅝	x ⅞	41.275	x 22.225	**P3300 SS**
Shallow Punched	1⅝	x ⅞	41.275	x 22.225	**P3300HS SS**

PVC Coated
Pipe Strap

Cat. No.	Color
LB17	G

G = Gray, R = Red, W = White, B = Blue
* Custom Colors Available

PVC Coated Pipe Straps

Dimensions		
Inches	Metric Size Designator*	OCAL Cat. No.
½	16	STRUT STRAP 1/2
¾	21	STRUT STRAP 3/4
1	27	STRUT STRAP 1
1¼	35	STRUT STRAP 1-1/4
1½	41	STRUT STRAP 1-1/2
2	53	STRUT STRAP 2
2½	63	STRUT STRAP 2-1/2
3	78	STRUT STRAP 3
3½	91	STRUT STRAP 3-1/2
4	103	STRUT STRAP 4
5	129	STRUT STRAP 5

Stainless Steel
Pipe Strap

316 Stainless Steel Pipe Straps

Dimensions		
Inches	Metric Size Designator*	OCAL Cat. No.
½	16	STRUT STRAP 1/2SS
¾	21	STRUT STRAP 3/4SS
1	27	STRUT STRAP 1SS
1¼	35	STRUT STRAP 1-1/4SS
1½	41	STRUT STRAP 1-1/2SS
2	53	STRUT STRAP 2SS
2½	63	STRUT STRAP 2-1/2SS
3	78	STRUT STRAP 3SS
3½	91	STRUT STRAP 3-1/2SS
4	103	STRUT STRAP 4SS
5	129	STRUT STRAP 5SS

Hanger Rod Beam Clamp

Cat. No.	Color
LB17	G

G = Gray, R = Red, W = White, B = Blue
* Custom Colors Available

Hanger Rod Beam Clamps

Jaw Opening Dimensions		Tapped Hole Dimensions		
Inches	Metric Size	Inches	Metric Size	Cat. No.
15⁄16	23.812	¼ - 20	6.350 - 20	500
⅞	22.225	15⁄16 - 18	7.937 - 18	501
1	25.400	⅜ - 16	9.525 - 16	502
1	25.400	½ - 13	12.700 - 13	503
2⅛	53.975	½ - 13	12.700 - 13	508

* Metric size designator (ANSI C80.1-1994).

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PVC Coated
All Thread Rod

Cat. No.	Color
LB17	G

G = Gray, R = Red, W = White, B = Blue
* Custom Colors Available

PVC Coated Steel All Thread Rod

Pipe Size		Cat. No.
Inches	Metric Size Designator*	
⅜ x 3	9.525 x 76.200	THR3-8X3
⅜ x 6	9.525 x 152.400	THR3-8X6
⅜ x 10	9.525 x 254.000	THR3-8X10
½ x 3	12.700 x 76.200	THR1-2X3
½ x 6	12.700 x 152.400	THR1-2X6
½ x 10	12.700 x 254.00	THR1-2X10

PVC Coated Kindorf® Channel and Struts are available upon request.

Stainless Steel
All Thread Rod

Stainless Steel All Thread Rod

Pipe Size		Cat. No.
Inches	Metric Size Designator*	
½ x 3	12.700 x 76.200	THR1-2X3SS
½ x 6	12.700 x 152.400	THR1-2X6SS
½ x 10	12.700 x 254.00	THR1-2X10SS

PVC Coated Kindorf® Channel and Struts are available upon request.
* Metric size designator (ANSI C80.1-1994).

E-142
Hex Head Cap Screw

316 Stainless Steel Accessories

Cat. No.	Description
E-142SS	Hex Head Cap Screw
E-145SS	Standard Hex Nut
EF-147SS	Fender Washer
H-119SS	Rod Coupling

E-145
Standard Hex Nut

EF-147
Fender Washer

H-119
Rod Coupling

Ocal®
Kopr-Shield™ Compound

Kopr-Shield™ by Thomas & Betts meets the requirements of Section 300.6(A) in the 2002 NEC Code for Protection Against Corrosion.

"Where corrosion protection is necessary and the conduit is threaded in the field, the threads shall be coated with an approved electrically conductive, corrosion-resistant compound."

The Copper Colloidal Surface Treatment That Protects, Lubricates and Enhances Conductivity Between All Electrical Connections

Good connections are one of the most important aspects of electrical work. Mechanics know how much down-time is caused when fluids or oils leak into the raceway system or looking for a weak link in a ground system caused by a high resistance connection. Mechanics also know how much time is spent keeping contacts, switches, lugs and other connectors clean or replacing parts because of "green scourge" build-up. Thomas & Betts has the solution to improve connections made in thousands of electrical and raceway installations made each day by electricians everywhere.

Kopr-Shield™ compound is a unique homogenized blend of pure, polished colloidal copper, rust and corrosion inhibitors that simultaneously protects, lubricates and enhances the conductivity of the mating surfaces to which it is applied. Extremely adhesive, Kopr-Shield™ compound flows smoothly into uneven contours and voids, making application easy, protection and lubrication complete and positive. A stable compound, it will not settle-out, thin, thicken, harden, or dry out under the most severe environmental conditions.

Kopr-Shield™ Compound has excellent temperature characteristics – brushed on at –50F to 250F (other compounds either turn solid or run like water at these extremes). Even at 1800F, Kopr-Shield™ remains intact for short terms.

Kopr-Shield™ Compound may be used to advantage in all electrical installations. When the environment is hostile to good electrical and mechanical connections, Kopr-Shield™ Compound is a must!

Use Kopr-Shield™ Compound for Battery Lugs and Cables.

- Prevention of "Green Scourge" corrosion.
- Reduction of resistance.
- Ease of terminal installation and removal.

Use Kopr-Shield™ Compound for Raceways.

- Lubrication – Ease of assembly and disassembly.
- Grounding Continuity Improved – Exceeds code requirements.

Use Kopr-Shield™ Compound for Fuse Clips.

- Even Heat Distribution – Elimination of hot spots.
- Oxidation Prevention – Prevents carbon path formation.
- Lubrication – Easy installation and removal of fuses.

Use Kopr-Shield™ Compound for Wiping Contacts, Drum Switches and Slip Rings.

- Prevention of galling, burning, pitting and discoloration.
- Suppression of arching and dissipation of coronas.
- Lubrication for ease of operation.

Kopr-Shield™

Cat. No.	Description	Std. Pkg.	Wt. Lbs./C
201-31879	1½ oz. Container with brush	96	11.46
201-31879-1	4 oz. Container with brush	24	38.54
CP8-TB	8 oz. Container with brush	12	64.58
CP16	16 oz. Container with brush	12	120.83
CP128	1 Gallon Can	4	952.00

Kopr-Shield™ is a product of Jet Lube, Inc.

Thomas&Betts

OCAL Patching Material

Ocal Touch Up Compounds

Item	Size
SPRAY CAN	12½ oz OCAL SPRAY
PATCH PINT	OCAL-PATCH (Brush on)
PATCH GALLON	OCAL-PATCH
INTERIOR PATCH-PINT	INTERIOR PATCH (Brush on)

Free! OCAL Installation Video

This free, 13-minute video gives you easy to follow instructions for clamping, cutting, threading, bending, and assembling coated conduit systems.*

*Also Available in Spanish.

OCAL Installation Tools*

OCAL ELECTRIC BENDER*

OCAL electric benders are used for bending OCAL-BLUE PVC coated conduit, sizes ½" through 2".

OCAL THREADER*

Specially adapted for use on ½" through 4" PVC coated conduit. (Can also be used for rigid steel conduit.)

OCAL J-WRENCH

OCAL J-Wrench offers aluminum **removable** jaws. Use with our pliers or adapt your own.

OCAL HAND BENDER

Use an Ocal bender to bend ½" through 1" OCAL-BLUE PVC coated conduit.

OCAL PIPE RETAINER FOR HYDRAULIC BENDERS

Eliminates all kinking.

Cat. No.	Description
J460	16" wrench with jaws
J442	12" wrench with jaws

*All OCAL tools are available for purchase or lease.

OCAL Installation Tools – Manufactured by RIDGID® TOOL CO.

RIDGID® No. 700 Portable Power Drive

Threading Capacity: ½" through 2" OCAL PVC coated conduit

Cat. No.	Description	Weight Lb.	Weight kg
700	Portable Power Drive	25	11.250
774	Square Drive Adapter	5¼	2.362
B-171-X	Carrying Case for 700 and accessories	30	13.500

RIDGID® Die Heads Complete

Factory machined .100". Easily identified silver body

	Nominal Pipe Size					
Cat. No.	**½"**	**¾"**	**1"**	**1¼"**	**1½"**	**2"**
12 R NPT	**16***	**218**	**27***	**35"**	**41***	**53***
High Speed RH	51857	51862	51867	51872	51877	51882

* Metric size designator (ANSI C80.1-1994).

RIDGID® No. 202 Pipe Cutter

		Pipe Capacity Nominal Size		Weight	
Cat. No.	**Pipe Cutter Description**	**in.**	**mm**	**lbs.**	**kg**
202	Heavy Duty Wide Roll	⅛ - 2	3.175 - 50.8	8	3.6

RIDGID® No. 318 Oiler

Cat. No.	Description	Weight lb.	Weight kg
318	Oiler with 1-gallon of Thread Cutting Oil	21½	9.675

RIDGID® Nos. 141/161 Geared Threaders

-141 threads 2½", 3", 3½", 4" pipe with one set of dies
-161 threads 4", 5", 6" pipe with one set of dies

		Capacity Nominal Pipe Size		Weight	
Cat. No.	**Description**	**in.**	**mm**	**lbs.**	**kg**
141	NPT with 1 Set High-Speed Dies	2½ - 4	62 - 100	93	41.85
161	NPT with 1 Set High-Speed Dies	4 - 6	100 - 150	158	71.10
96725	Metal Carrying Case for 141 Geared Threaders	–	–	17	7.65

RIDGID®

No. 2-S Spiral Ratchet Pipe Reamer

Thomas&Betts

OCAL Installation Tools – Manufactured by RIDGID® TOOL CO.

RIDGID® No. 40-A Tristand Yoke Vise

	Capacity		Weight	
Cat. No.	Inches	Metric Size Designator*	Pounds	Kilograms
40-A	½" thru 2"	16 - 53	48½	21.825

Capacity – ½" - 1½" when used with Ocal Jaws. See below.

OCAL JAWS

Cat. No.	Description
JAWS23	Used for RIDGID No. 23 or No. 40 pipe vises.

Machined Aluminum Construction. 3 pieces to a set.

RIDGID® Straight Pipe Wrench w/extra wide jaws

Specially designed for OCAL-BLUE PVC coated conduit.

		Size		Pipe Capacity		Weight		Std.
Cat. No.	Description	in.	mm	in.	mm	lb.	kg.	Pack
810CP	Aluminum Straight Pipe Wrench	10	250	1½	40	1	0.4	6
814CP	Aluminum Straight Pipe Wrench	14	350	2	50	2½	1.1	6
818CP	Aluminum Straight Pipe Wrench	18	450	2½	65	3¾	1.7	6

RIDGID® Strap Wrench

A specially coated strap that will not absorb oil.

	Length		Length		Width		Capacity		Capacity (O.D.)		Weight		Std.
Cat. No.	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lb.	kg	Pack
2P	11¾	300	17	425	1 1⁄16	27	2	50	3½	90	1¾	0.8	1
5P	18	450	29¼	750	1¾	45	5	125	5½	135	2¾	1.0	1

RIDGID® No. 450 Tristand Top-Screw Chain Vise

See OCAL video for proper jaws manufacturing procedure.

	Capacity		Weight	
Cat. No.	Inches	Metric Size Designator*	Pounds	Kilograms
450	½" thru 4"	16 - 103	45½	20.475

NOTE: All millimeter sizes are (ANSI C80. 1-1994)
* Metric size designator (ANSI C80.1-1994).

Thomas&Betts

Urethane Interior Coating Chemical Resistance Chart

Solutions	Conc.	Temp.	Recommended Exposure		
			Splashing	Liquid	Fumes
Acetic Acid	10%	75	yes	no	yes
Acid Copper Plating Solution	Any	75	yes	no	yes
Alkaline Cleaners	Any	75	yes	no	yes
Aluminum Chloride	Sat'd	75	yes	no	yes
Aluminum Sulfate	Sat'd	75	yes	no	yes
Alums	Sat'd	75	yes	no	yes
Ammonium Chloride	Sat'd	75	yes	no	yes
Ammonium Hydroxide	28%	75	yes	no	yes
Ammonium Hydroxide	10%	75	yes	no	yes
Ammonium Sulfate	Sat'd	75	yes	no	yes
Ammonium Thiocyanate	Sat'd	75	yes	no	yes
Amyl Alcohol	Any	75	yes	yes	yes
Arsenic Acids	Any	75	yes	no	yes
Barium Sulfide	Sat'd	75	yes	no	yes
Black Liquor	Sat'd	75	yes	no	yes
Benzoic Acid	Sat'd	75	yes	no	yes
Brass Plating Solution	Any	75	yes	no	yes
Bromine Water	Sat'd	75	yes	no	yes
Butyl Alcohol	Any	75	yes	no	yes
Cadmium Plating Solution	Any	75	yes	no	yes
Calcium Bisulfite	Any	75	yes	no	yes
Calcium Chloride	Sat'd	75	yes	no	yes
Calcium Hypochlorite	Sat'd	75	yes	no	yes
Carbonic Acid	Sat'd	75	yes	no	yes
Casein	Sat'd	75	yes	no	yes
Castor Oil	Any	75	yes	yes	yes
Caustic Soda	35%	75	yes	no	yes
Caustic Soda	10%	75	yes	no	yes
Caustic Potash	35%	75	yes	no	yes
Caustic Potash	10%	75	yes	no	yes
Chlorine Water	Sat'd	75	yes	no	yes
Chromium Plating Solution	Any	75	yes	no	yes
Citric Acid	Sat'd	75	yes	no	yes
Copper Chloride (Cupric)	Sat'd	75`	yes	no	yes
Copper Cyanide Plating Sol	Any	75`	yes	no	yes
(High Speed)	Any	75	yes	no	yes
(with Alkali Cyanides)	Sat'd	75	yes	no	yes
Copper Sulfate	Sat'd	75	yes	no	yes
Cocoanut Oil	Sat'd	75	yes	yes	yes
Cottonseed Oil	Sat'd	75	yes	yes	yes
Disodium Phosphate	Sat'd	75	yes	no	yes
Ethyl Alcohol	Any	75	yes	no	yes
Ethylene Glycol	Any	75	yes	yes	yes
Ferric Chloride	45%	75	yes	no	yes
Ferrous Sulfate	Sat'd	75	yes	no	yes
Fluoboric Acid	Any	75	yes	no	yes
Formaldehyde	37%	75	yes	no	yes
Formic Acid	85%	75	yes	no	yes
Gallic Acid	Sat'd	75	yes	no	yes
Glucose	Any	75	yes	yes	yes
Glue	Any	75	yes	no	yes
Glycerine	Any	75	yes	yes	yes
Gold Plating Solution	Any	75	yes	no	yes
Hydrochloric Acid	10%	75	yes	no	yes
Hydrochloric Acid	21.5%	75	yes	no	yes
Hydrochloric Acid	37.5%	75	yes	no	yes
Hydrofluoric Acid	4%	75	yes	no	yes
Hydrofluoric Acid	10%	75	yes	no	yes
Hydrofluoric Acid	48%	75	yes	no	yes
Hydrogen Peroxide	30%	75	yes	no	yes
Hydrogen Sulfide	Sat'd	75	yes	no	yes
Hydroquinone	Any	75	yes	no	yes
Indium Plating Solution	Any	75	yes	no	yes
Lactic Acid	50%	75	yes	no	yes
Lactic Acid	Any	75	yes	no	yes

Solutions	Conc.	Temp.	Recommended Exposure		
			Splashing	Liquid	Fumes
Lead Plating Solution	Any	75	yes	no	yes
Malic Acid	Any	75	yes	no	yes
Methyl Alcohol	Any	75	yes	no	yes
Mineral Oils	Any	75	yes	yes	yes
Nickel Acetate	Sat'd	75	yes	no	yes
Nickel Plating Solution		75	yes	no	yes
Nickel Salts	Sat'd	75	yes	no	yes
Nitric Acid	35%	75	yes	no	yes
Nitric Acid	40%	75	yes	no	yes
Nitric Acid	60%	75	yes	no	yes
Nitric Acid/ Hydrofluoric Acid	15% 4%	75	yes	no	yes
Nitric Acid/ Sodium Dichromate Water	16% 13% 71%	75	yes	no	yes
Oleic Acid	Any	75	yes	no	yes
Oxalic Acid	Sat'd	75	yes	no	yes
	Any	75	yes	no	yes
Phenol	Sat'd	75	yes	no	yes
Phosphoric Acid	75%	75	yes	no	yes
Phosphoric Acid	85%	75	yes	no	yes
Potassium Acid Sulfate	Sat'd	75	yes	no	yes
Potassium Antimonate	Sat'd	75	yes	no	yes
Potassium Bisulfite	Sat'd	75	yes	no	yes
Potassium Chloride	Sat'd	75	yes	no	yes
Potassium Cuprocyanide	Sat'd	75	yes	no	yes
Potassium Cyanide	Sat'd	75	yes	no	yes
Potassium Diachromate	Sat'd	75	yes	no	yes
Potassium Hypochlorite	Sat'd	75	yes	no	yes
Potassium Sulfide	Sat'd	75	yes	no	yes
Potassium Thiosulfate	Sat'd	75	yes	no	yes
Propyl Alcohol	Sat'd	75	yes	no	yes
Rhodium Plating Solution	Sat'd	75	yes	no	yes
Silver Plating Solution	Sat'd	75	yes	no	yes
Soaps	Any	75	yes	no	yes
Sodium Acid Sulfate	Sat'd	75	yes	no	yes
Sodium Antimonate	Sat'd'	75	yes	no	yes
Sodium Bicarbonate	Sat'd	75	yes	no	yes
Sodium Bisulfite	Sat'd	75	yes	no	yes
Sodium Chloride	Sat'd	75	yes	no	yes
Sodium Cyanide	Sat'd	75	yes	no	yes
Sodium Dichromate	Sat'd	75	yes	no	yes
Sodium Hydroxide	10%	75	yes	no	yes
Sodium Hydroxide	35%	75	yes	no	yes
Sodium Hydroxide	73%	75	yes	no	yes
Sodium Hypochlorite	Sat'd	75	yes	no	yes
Sodium Hypochlorite	15%	75	yes	no	yes
Sodium Sulfide	Sat'd	75	yes	no	yes
Sodium Thiosulfate	Sat'd	75	yes	no	yes
Sulfuric Acid	15%	75	yes	no	yes
Sulfuric Acid	50%	75	yes	no	yes
Sulfuric Acid	70%	75	yes	no	yes
Sulfuric Acid	98%	75	yes	no	yes
Sulfurous Acid	2%	75	yes	no	yes
Sulfurous Acid	6%	75	yes	no	yes
Tannic Acid	Sat'd	75	yes	no	yes
Tartaric Acid	Sat'd	75	yes	no	yes
Tin Chloride Aqueous	Sat'd	75	yes	no	yes
Tin Plating Solution	Sat'd	75	yes	no	yes
Triethaneolamine	Sat'd	75	yes	no	yes
Trisodium Phosphate	Sat'd	75	yes	no	yes
Water	Sat'd	75	yes	no	yes
White Liquor		75	yes	no	yes
Zinc Plating Solution		75	yes	no	yes
Zinc Sulfate	Sat'd	75	yes	no	yes

Thomas&Betts

PVC Coating Chemical Resistance Chart

Solutions	Conc.	Temp.	Recommended Exposure		
			Splashing	Liquid	Fumes
Acetic Acid	10%	120	no	no	no
Acid Copper Plating Solution	160	yes	yes	yes	
Alkaline Cleaners		160	yes	yes	yes
Aluminum Chloride	Sat'd	160	yes	yes	yes
Aluminum Sulfate	Sat'd	160	yes	yes	yes
Alums	Sat'd	160	yes	yes	yes
Ammonium Chloride	Sat'd	160	yes	yes	yes
Ammonium Hydroxide	28%	120	yes	yes	yes
Ammonium Hydroxide	10%	120	yes	yes	yes
Ammonium Sulfate	Sat'd	160	yes	yes	yes
Ammonium Thiocyanate	Sat'd	160	yes	yes	yes
Amyl Alcohol	Any	90	yes	yes	yes
Arsenic Acids	Any	150	yes	yes	yes
Barium Sulfide	Sat'd	120	yes	yes	yes
Black Liquor	Sat'd	90	yes	yes	yes
Benzoic Acid	Sat'd	160	yes	yes	yes
Brass Plating Solution	Any	160	yes	yes	yes
Bromine Water	Sat'd	120	yes	yes	yes
Butyl Alcohol	Any	90	yes	yes	yes
Cadmium Plating Solution	Any	150	yes	yes	yes
Calcium Bisulfite	Any	150	yes	yes	yes
Calcium Chloride	Sat'd	160	yes	yes	yes
Calcium Hypochlorite	Sat'd	120	yes	yes	yes
Carbonic Acid	Sat'd	160	yes	yes	yes
Casein	Sat'd	90	yes	yes	yes
Castor Oil	Any	90	yes	yes	yes
Caustic Soda	35%	120	yes	yes	yes
Caustic Soda	10%	150	yes	yes	yes
Caustic Potash	35%	120	yes	yes	yes
Caustic Potash	10%	150	yes	yes	yes
Chlorine Water	Sat'd	90	yes	yes	yes
Chromium Plating Solution	Any	150	yes	yes	yes
Citric Acid	Sat'd	160	yes	yes	yes
Copper Chloride (Cupric)	Sat'd	160	yes	yes	yes
Copper Cyanide Plating Sol	Any	160	yes	yes	yes
(High Speed)	Any	180	yes	yes	yes
(with Alkali Cyanides)	Sat'd	160	yes	yes	yes
Copper Sulfate	Sat'd	160	yes	yes	yes
Cocoanut Oil	Sat'd	90	yes	yes	yes
Cottonseed Oil	Sat'd	90	yes	yes	yes
Disodium Phosphate	Sat'd	160	yes	yes	yes
Ethyl Alcohol	Any	90	yes	yes	yes
Ethylene Glycol	Any	90	yes	no	yes
Ferric Chloride	45%	120	yes	yes	yes
Ferrous Sulfate	Sat'd	150	yes	yes	yes
Fluoboric Acid	Any	150	yes	yes	yes
Formaldehyde	37%	120	yes	yes	yes
Formic Acid	85%	100	no	no	no
Gallic Acid	Sat'd	150	no	no	yes
Glucose	Any	150	yes	yes	yes
Glue	Any	150	yes	yes	yes
Glycerine	Any	90	yes	yes	yes
Gold Plating Solution	Any	150	yes	yes	yes
Hydrochloric Acid	10%	120	yes	no	yes
Hydrochloric Acid	21.5%	120	yes	no	yes
Hydrochloric Acid	37.5%	120	yes	no	yes
Hydrochloric Acid	37.5%	90	yes	no	yes
Hydrofluoric Acid	4%	140	yes	no	yes
Hydrofluoric Acid	10%	120	yes	no	yes
Hydrofluoric Acid	48%	120	yes	no	yes
Hydrogen Peroxide	30%	120	yes	yes	yes
Hydrogen Sulfide	Sat'd	120	yes	yes	yes
Hydroquinone	Any	90	yes	yes	yes
Indium Plating Solution	Any	150	yes	yes	yes
Lactic Acid	50%	120	yes	yes	yes
Lactic Acid	Any	90	yes	yes	yes
Lead Plating Solution	Any	150	yes	yes	yes

Solutions	Conc.	Temp.	Recommended Exposure		
			Splashing	Liquid	Fumes
Malic Acid	Any	90	yes	yes	yes
Methyl Alcohol	Any	90	yes	yes	yes
Mineral Oils	Any	90	yes	yes	yes
Nickel Acetate	Sat'd	160	yes	yes	yes
Nickel Plating Solution		160	yes	yes	yes
Nickel Salts	Sat'd	160	yes	yes	yes
Nitric Acid	35%	120	yes	no	yes
Nitric Acid	40%	90	yes	no	yes
Nitric Acid	60%	120	yes	no	yes
Nitric Acid/	15%				
Hydrofluoric Acid	4%	140	yes	yes	yes
Nitric Acid/	16%				
Sodium Dichromate	13%	130	yes	yes	yes
Water	71%				
Oleic Acid	Any	90	yes	yes	yes
Oxalic Acid	Sat'd	120	yes	yes	yes
	Any	90	yes	yes	yes
Phenol	Sat'd	120	no	no	no
Phosphoric Acid	75%	150	yes	yes	yes
Phosphoric Acid	85%	120	yes	yes	yes
Phosphoric Acid	85%	160	yes	yes	yes
Potassium Acid Sulfate	Sat'd	150	yes	yes	yes
Potassium Antimonate	Sat'd	150	yes	yes	yes
Potassium Bisulfite	Sat'd	90	yes	yes	yes
Potassium Chloride	Sat'd	160	yes	yes	yes
Potassium Cuprocyanide	Sat'd	150	yes	yes	yes
Potassium Cyanide	Sat'd	160	yes	yes	yes
Potassium Diachromate	Sat'd	160	yes	yes	yes
Potassium Hypochlorite	Sat'd	90	yes	no	yes
Potassium Sulfide	Sat'd	150	yes	yes	yes
Potassium Thiosulfate	Sat'd	150	yes	yes	yes
Propyl Alcohol	Sat'd	150	yes	yes	yes
Rhodium Plating Solution	Sat'd	150	yes	yes	yes
Silver Plating Solution	Sat'd	150	yes	yes	yes
Soaps	Any	90	yes	yes	yes
Sodium Acid Sulfate	Sat'd	160	yes	yes	yes
Sodium Antimonate	Sat'd'	150	yes	yes	yes
Sodium Bicarbonate	Sat'd	160	yes	yes	yes
Sodium Bisulfite	Sat'd	90	yes	yes	yes
Sodium Chloride	Sat'd	160	yes	yes	yes
Sodium Cyanide	Sat'd	160	yes	yes	yes
Sodium Dichromate	Sat'd	160	yes	yes	yes
Sodium Hydroxide	10%	150	yes	no	yes
Sodium Hydroxide	35%	120	yes	no	yes
Sodium Hydroxide	73%	160	no	no	no
Sodium Hypochlorite	Sat'd	90	yes	no	yes
Sodium Hypochlorite	15%	120	yes	no	yes
Sodium Sulfide	Sat'd	150	yes	yes	yes
Sodium Thiosulfate	Sat'd	150	yes	yes	yes
Sulfuric Acid	15%	120	yes	yes	yes
Sulfuric Acid	15%	160	yes	yes	yes
Sulfuric Acid	50%	120	yes	yes	yes
Sulfuric Acid	70%	90	yes	no	yes
Sulfuric Acid	98%	100	no	no	yes
Sulfurous Acid	2%	120	yes	no	yes
Sulfurous Acid	6%	120	yes	no	yes
Tannic Acid	Sat'd	90	yes	yes	yes
Tartaric Acid	Sat'd	90	yes	yes	yes
Tin Chloride Aqueous	Sat'd	150	yes	yes	yes
Tin Plating Solution	Sat'd	150	yes	yes	yes
Triethaneolamine	Sat'd	150	yes	yes	yes
Trisodium Phosphate	Sat'd	150	yes	yes	yes
Water	Sat'd	160	yes	yes	yes
White Liquor		90	yes	yes	yes
Zinc Plating Solution		160	yes	yes	yes
Zinc Sulfate	Sat'd	160	yes	yes	yes

Thomas&Betts

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UL 6-1993 Safety Standard for Rigid Metal Conduit

UL 1242-1992 Safety Standard for Intermediate Metal Conduit

SECTION 3 – EXTERNAL COATINGS

3.1 Thickness

The thickness of polyvinyl chloride (PVC) coatings shall be a nominal 0.040 in. (1.02 mm). The tolerance on the coating thickness shall be +0.010 in. (0.25 mm) or -0.005 in. (0.13 mm).

3.2 Coating Material

The PVC coating shall have the properties specified in Table 3-1.

Properties of PVC Coatings **Table 3.1**

Property	Minimum Requirement	ASTM Test Method
Hardness:		
Shore A	75	D 2240
Shore D	25	D 2240
Tensile Strength, psi	2000	D 638
Elongation, percent	200	D 638
Dielectric strength, volts per mil	325	D 149
Brittleness temperature, degrees F	5	D 1790

3.3 Application of Coating

3.3.1 Cleaning

The exterior surface that is to receive the coating shall be free of grease, oil, dirt, and other extraneous matter. **The surface shall be cleaned in such a manner that the galvanized surface of the conduit is not harmed or eroded.**

3.3.2 Priming

The cleaned exterior surface shall be primed with an adhesive suitable for use with the PVC coating material to be applied.

3.3.3 Coating

The PVC material shall be applied in powder, plastisol, or pellet form by a manufacturing method which will produce a finished product conforming to these standards.

3.4 Elbows

Coated elbows shall be used with coated conduit. The thickness of the coating on elbows shall be in accordance with Section 3.1.

3.5 Couplings

Coated couplings shall be used with coated conduit. The thickness of the coating on couplings shall be at least equal to the thickness of the coating on the conduit.

Each coated coupling shall have a flexible PVC sleeve which extends from each end of the coupling and which will overlap the PVC coating on the conduit when the coupling has been installed on the conduit. The length of the sleeve extension(s) shall be at least equivalent to the nominal conduit size for sizes up through NPS 2 (53). For sizes NPS 2-1/2 (63) through NPS 6 (155), the length of the sleeve extension(s) shall be at least 2 inches (50.8 mm).

The PVC sleeve shall be a nominal thickness of 0.040 in. (1.02 mm). The inside diameter (id) of the overlapping sleeve shall be less than the outside diameter (od) of the PVC-coated conduit.

3.7 Performance Requirements

Typical physical requirements for PVC-coated conduit are given in Table 3-2.

Typical Physical Properties of PVC-Coated Rigid Conduit and IMC **Table 3.2**

Property	Requirement*	Test Method
Abrasion resistance, hours	200, no failure	ASTM G 6
Bendability, radius in inches at 73.4° ± 1.8° F	9 (228.6 mm)	ASTM G 10
Artificial weathering, hours	Minimum 1000, no adverse effect	ASTM G 23

*The above requirements are based on testing a 0.040 in. (1.02 mm) PVC coating applied over NPS 3/4 inch (21) galvanized rigid steel conduit. See Section 1 for information on the ASTM test methods.

3.8 Adhesion

The adhesion of the PVC coating to the conduit shall be greater than the strength of the coating itself. This shall be determined by making two circumferential cuts, above 1/2 in. (12.7 mm) apart, through the plastic to the substrate. A third cut shall be made perpendicular to and crossing the circumferential cuts. The edge of the plastic shall be carefully lifted with a knife to form a plastic tab. This tab shall be pulled perpendicular to the conduit with a pair of pliers. The plastic tab shall tear rather than any additional coating film separating from the substrate.

NEC 310-16 Allowable Ampacities of Insulated Conductors

Article 310 – Conductors for General Wiring

Table 310.16 Allowable Ampacities of Insulated Conductors Rated 0 Through 2000 Volts, 60°C Through 90°C (140°F Through 194°F), Not More Than Three Current-Carrying Conductors in Raceway, Cable, or Earth (Directly Buried), Based on Ambient Temperature of 30°C (86°F)

	Temperature Rating of Conductor (See Table 310.13.)						
	60°C – (140°F)	75°C – (167°F)	90°C – (194°F)	60°C – (140°F)	75°C – (167°F)	90°C – (194°F)	
	Types TW, UF	Types RHW, THHW, THW, THWN, XHHW, USE, ZW	Types TBS, SA, SIS, FEP, FEPB, MI, RHH, RHW-2, THHN, THHW, THW-2, THWN-2, USE-2, XHH, XHHW, XHHW-2, ZW-2	Types TW, UF	Types RHW, THHW, THW, THWN, XHHW, USE	Types TBS, SA, SIS, THHN, THHW, THW-2, THWN-2, RHH, RHW-2, USE-2, XHH, XHHW, XHHW-2, ZW-2	
Size AWG or kcmil	COPPER			ALUMINUM OR COPPER-CLAD ALUMINUM			Size AWG or kcmil
18	—	—	14	—	—	—	—
16	—	—	18	—	—	—	—
14*	20	20	25	—	—	—	—
12*	25	25	30	20	20	25	12*
10*	30	35	40	25	30	35	10*
8	40	50	55	30	40	45	8
6	55	65	75	40	50	60	6
4	70	85	95	55	65	75	4
3	85	100	110	65	75	85	3
2	95	115	130	75	90	100	2
1	110	130	150	85	100	115	1
1/0	125	150	170	100	120	135	1/0
2/0	145	175	195	115	135	150	2/0
3/0	165	200	225	130	155	175	3/0
4/0	195	230	260	150	180	205	4/0
250	215	255	290	170	205	230	250
300	240	285	320	190	230	255	300
350	260	310	350	210	250	280	350
400	280	335	380	225	270	305	400
500	320	380	430	260	310	350	500
600	355	420	475	285	340	385	600
700	385	460	520	310	375	420	700
750	400	475	535	320	385	435	750
800	410	490	555	330	395	450	800
900	435	520	585	355	425	480	900
1000	455	545	615	375	445	500	1000
1250	495	590	665	405	485	545	1250
1500	520	625	705	435	520	585	1500
1750	545	650	735	455	545	615	1750
2000	560	665	750	470	560	630	2000

CORRECTION FACTORS

Ambient Temp.(°C)	For ambient temperatures other than 30°C (86°F), multiply the allowable ampacities shown above by the appropriate factor shown below.						Ambient Temp. (°F)
21–25	1.08	1.05	1.04	1.08	1.05	1.04	70–77
26–30	1.00	1.00	1.00	1.00	1.00	1.00	78–86
31–35	0.91	0.94	0.96	0.91	0.94	0.96	87–95
36–40	0.82	0.88	0.91	0.82	0.88	0.91	96–104
41–45	0.71	0.82	0.87	0.71	0.82	0.87	105–113
46–50	0.58	0.75	0.82	0.58	0.75	0.82	114–122
51–55	0.41	0.67	0.76	0.41	0.67	0.76	123–131
56–60	—	0.58	0.71	—	0.58	0.71	132–140
61–70	—	0.33	0.58	—	0.33	0.58	141–158
71–80	—	—	0.41	—	—	0.41	159–176

*See 240.4(D).

Table C8 Maximum Number of Conductors or Fixture Wires in Rigid Metal Conduit (RMC) (Based on Table 1, Chapter 9)

CONDUCTORS

Type	Conductor Size (AWG/kcmil)	Metric Designator (Trade Size) 16 (½)	21 (¾)	27 (1)	35 (1¼)	41 (1½)	53 (2)	63 (2½)	78 (3)	91 (3½)	103 (4)	129 (5)	155 (6)
RHH, RHW, RHW-2	14	4	7	12	21	28	46	66	102	136	176	276	398
	12	3	6	10	17	23	38	55	85	113	146	229	330
	10	3	5	8	14	19	31	44	68	91	118	185	267
	8	1	2	4	7	10	16	23	36	48	61	97	139
	6	1	1	3	6	8	13	18	29	38	49	77	112
	4	1	1	2	4	6	10	14	22	30	38	60	87
	3	1	1	2	4	5	9	12	19	26	34	53	76
	2	1	1	1	3	4	7	11	17	23	29	46	66
	1	0	1	1	1	3	5	7	11	15	19	30	44
	1/0	0	1	1	1	2	4	6	10	13	17	26	38
	2/0	0	1	1	1	2	4	5	8	11	14	23	33
	3/0	0	0	1	1	1	3	4	7	10	12	20	28
	4/0	0	0	1	1	1	3	4	6	8	11	17	24
	250	0	0	0	1	1	1	3	4	6	8	13	18
	300	0	0	0	1	1	1	2	4	5	7	11	16
	350	0	0	0	1	1	1	2	4	5	6	10	15
	400	0	0	0	1	1	1	1	3	4	6	9	13
	500	0	0	0	1	1	1	1	3	4	5	8	11
	600	0	0	0	0	1	1	1	2	3	4	6	9
	700	0	0	0	0	1	1	1	1	3	4	6	8
	750	0	0	0	0	0	1	1	1	3	3	5	8
	800	0	0	0	0	0	1	1	1	2	3	5	7
	900	0	0	0	0	0	1	1	1	2	3	5	7
	1000	0	0	0	0	0	1	1	1	1	3	4	6
TW, THHW, THW, THW-2	14	9	15	25	44	59	98	140	216	288	370	581	839
	12	7	12	19	33	45	75	107	165	221	284	446	644
	10	5	9	14	25	34	56	80	123	164	212	332	480
	8	3	5	8	14	19	31	44	68	91	118	185	267
RHH*, RHW*, RHW-2*	14	6	10	17	29	39	65	93	143	191	246	387	558
RHH*, RHW*, RHW-2*	12	5	8	13	23	32	52	75	115	154	198	311	448
	10	3	6	10	18	25	41	58	90	120	154	242	350
RHH*, RHW*, RHW-2*	8	1	4	6	11	15	24	35	54	72	92	145	209

CONDUCTORS

Type	Conductor Size (AWG/kcmil)	Metric Designator (Trade Size) 16 (½)	21 (¾)	27 (1)	35 (1¼)	41 (1½)	53 (2)	63 (2½)	78 (3)	91 (3½)	103 (4)	129 (5)	155 (6)
RHH*,	6	1	3	5	8	11	18	27	41	55	71	111	160
RHW*,	4	1	1	3	6	8	14	20	31	41	53	83	120
RHW-2*,	3	1	1	3	5	7	12	17	26	35	45	71	103
TW,	2	1	1	2	4	6	10	14	22	30	38	60	87
THW,	1	1	1	1	3	4	7	10	15	21	27	42	61
THHW,	1/0	0	1	1	2	3	6	8	13	18	23	36	52
THW-2	2/0	0	1	1	2	3	5	7	11	15	19	31	44
	3/0	0	1	1	1	2	4	6	9	13	16	26	37
	4/0	0	0	1	1	1	3	5	8	10	14	21	31
	250	0	0	1	1	1	3	4	6	8	11	17	25
	300	0	0	1	1	1	2	3	5	7	9	15	22
	350	0	0	0	1	1	1	3	5	6	8	13	19
	400	0	0	0	1	1	1	3	4	6	7	12	17
	500	0	0	0	1	1	1	2	3	5	6	10	14
	600	0	0	0	1	1	1	1	3	4	5	8	12
	700	0	0	0	0	1	1	1	2	3	4	7	10
	750	0	0	0	0	1	1	1	2	3	4	7	10
	800	0	0	0	0	1	1	1	2	3	4	6	9
	900	0	0	0	0	1	1	1	1	3	4	6	8
	1000	0	0	0	0	0	1	1	1	2	3	5	8
THHN,	14	13	22	36	63	85	140	200	309	412	531	833	1202
THWN,	12	9	16	26	46	62	102	146	225	301	387	608	877
THWN-2	10	6	10	17	29	39	64	92	142	189	244	383	552
	8	3	6	9	16	22	37	53	82	109	140	221	318
	6	2	4	7	12	16	27	38	59	79	101	159	230
	4	1	2	4	7	10	16	23	36	48	62	98	141
	3	1	1	3	6	8	14	20	31	41	53	83	120
	2	1	1	3	5	7	11	17	26	34	44	70	100
	1	1	1	1	4	5	8	12	19	25	33	51	74
	1/0	1	1	1	3	4	7	10	16	21	27	43	63
	2/0	0	1	1	2	3	6	8	13	18	23	36	52
	3/0	0	1	1	1	3	5	7	11	15	19	30	43
	4/0	0	1	1	1	2	4	6	9	12	16	25	36
	250	0	0	1	1	1	3	5	7	10	13	20	29
	300	0	0	1	1	1	3	4	6	8	11	17	25
	350	0	0	1	1	1	2	3	5	7	10	15	22
	400	0	0	1	1	1	2	3	5	7	8	13	20
	500	0	0	0	1	1	1	2	4	5	7	11	16
	600	0	0	0	1	1	1	1	3	4	6	9	13
	700	0	0	0	1	1	1	1	3	4	5	8	11
	750	0	0	0	0	1	1	1	3	4	5	7	11
	800	0	0	0	0	1	1	1	2	3	4	7	10
	900	0	0	0	0	1	1	1	2	3	4	6	9
	1000	0	0	0	0	1	1	1	1	3	4	6	8

Note: This table is for concentric stranded conductors only. For compact stranded conductors, Table C8(A) should be used.
*Types RHH, RHW, and RHW-2 without outer covering.

Specifications For OCAL-BLUE PVC Coated Galvanized Conduit and Fittings

1. All conduit prior to coating shall conform to: Federal Specification WW-C-581E, ANSI specification C80.1 and UL 6.

2. The conduit shall be "Hot Dipped" galvanized inside and out with hot dipped galvanized threads. The "Hot Dipped" galvanized threads shall be coated with blue urethane. The zinc coating shall be intact & undistrubed.

3. Conduits shall be investigated by Underwriters Laboratories for both the zinc as the primary coating and the PVC (polyvinyl chloride) as the primary coating ensuring double protection. Conduit shall be labeled with the UL Label having only one exception requiring the use of threaded fittings. No disclaimer.

4. The interior of the conduit shall have a blue urethane coating of a nominal thickness of .002" (2 mils).

5. The exterior of the conduit shall have PVC coating of a minimum thickness of .040" (40 mils) applied by dipping in liquid plastisol.

6. All coated conduit shall conform to NEMA Standard No. RN-1.

7. The conduit shall be bendable without damage to either interior or exterior coating.

8. A .002" (2 mils) nominal thickness coating of blue urethane shall be applied to the exterior, the interior, and the threads of all fittings.

9. A .040" (40 mils) minimum thickness coating of PVC shall be applied to the exterior of all fittings. The PVC shall be applied using the plastisol method.

10. Strut channel, strut fittings, and sheet metal enclosures. Shall have a thinner coat.

11. The PVC coating on all form 8 fittings shall form a gasket-like flange of at least 5/16" wide and .040" thick covering the top of the fitting around the opening.

12. The PVC coating on all form 8 covers shall form a gasket-like flange of at least 5/16" wide and .040" thick covering the bottom of the cover and mating with the flange of the fitting.

13. Stainless steel encapsulated screws shall be supplied with all form 7 and form 8 fittings.

14. All hubs on fittings and couplings shall have a PVC sleeve extending one pipe diameter or 2 inches, whichever is less. The I.D. of the sleeve to be equal to the O.D. of the uncoated pipe.

15. The bond between the coatings and the metal shall be greater than the tensile strength of the coatings.

16. A loose coupling shall be supplied with each length of conduit. The couplings shall have longitudinal ribs to enhance installation.

17. RA clamps shall have a minimum of 40 mil coating throughout. All nuts for RA clamps and U-bolts shall be encapsulated in a hexagon shape to fit standard sockets.

General Properties for OCAL-BLUE PVC Coated Galvanized Conduit and Fittings

Hardness
85-90 Shore A

Dielectric Strength
400 Volts/mil @ 60 Cycles

Aging
1,000 hours Atlas Weatherometer

Elongation
200%

Temperature
The polyvinyl chloride compound shall conform at -10 degrees Fahrenheit temperature to Federal Specifications LP-406b, Method 2051, Amendment 1 of 25 September 1952 (ASTMD-746). OCAL-BLUE is not recommended for use in areas where it will be exposed to sustained temperatures above 200 degrees Fahrenheit or exposed to fire.

Flammability
If subjected to sustained flame or sustained heat above 400 degrees Fahrenheit, PVC will burn. PVC is self-extinguishing at room temperature.

Toxicity
Prolonged exposure to heat greater than 200 degrees Fahrenheit or exposure to fire may cause the plastic coatings to release harmful emissions posing a potential health hazard to persons subjected to such emissions.

Bonding Test
Using a sharp knife make two parallel cuts through the coating ½" apart. Make a cut connecting those two cuts and work with a knife underneath the plastic to free a plastic tab. The tab shall be pulled with a pair of pliers away from the pipe. The tab should tear leaving particles of plastic on the metal surface indicating the bond is stronger than the tensile strength of the coating.

OCAL Recommended Installation Procedures

PVC coated conduit is installed in much the same manner as conventional rigid galvanized steel conduit; however, certain precautions must be taken to compensate for the exterior coating and to assure satisfactory results. By following these guidelines and by using the proper tools, *a damage-free installation can be obtained.*

It is recommended that a yoke vise be used in the field for clamping PVC coated conduit. When using a yoke vise it is recommended that the standard hardened steel jaws be replaced with the specially designed OCAL JAW vice adapters that provide greater clamping force to prevent the pipe from spinning during the threading operation.

To hold conduit in any other vise, take two pieces of rigid conduit one size larger than the coated conduit, 6" – 8" long. Using a band saw, slice them the long way slightly off center. Use the smaller slices as a shell around the conduit (throw away the large ones). This will grab onto a large area, allowing a strong grip without damage to the coating.

It is preferred that a roller-type cutter be used in cutting the conduit as it results in a ¼" exposed area of pipe before the start of the PVC jacket. This will allow the threader dies to engage the conduit more easily and lessen pressure at the clamped area.

OCAL offers an electric bender manufactured to accommodate ½" through 2" PVC coated conduit allowing damage-free bending.

For 2½" and larger sizes, a hydraulic bender is recommended. Shoes especially designed for PVC coated conduit are available from most manufacturers.

If existing rigid hydraulic shoes (not EMT) are to be modified, acceptable results can be obtained by machining .060" from the inside of the shoe.

To overcome any tendency of the conduit to slip vertically out of the shoe during the bending process and cause kinking, OCAL offers a pipe retainer clamp which can be modified to the shoes of any type of bender for sizes 2½" or larger.

A hacksaw or bandsaw will result in a flush cut of the PVC and conduit. In this instance it is recommended to taper-trim the PVC starting at ¼" from the cut. This "pencil-cut" will allow the threader dies to engage more readily. If the end is not trimmed, additional pressure will be required to engage the dies.

Use a reamer to remove any burrs or sharp edges caused by the cutting operation.

Threading PVC coated conduit with RIDGID hand dies requires modification to the dies. The inside diameter of the pipe guide of the die head must be machined out .120" to compensate for the PVC coating. Factory modified die heads are available from your distributor.

After the new threads have been cut, it is important that corrosion protection be applied to the exposed metal. A degreasing spray should be used to thoroughly clean the threads and the internal ream. After the threads are completely cleaned, liberally apply Kopr-Shield™ Compound per NEC article 300.6(a).