



WHITE PAPER

Expanded RTRC Support Distances Increase Savings Over GRC

Champion Fiberglass RTRC conduit systems utilize UL Listed extended support spans – with low labor costs, according to the NECA Manual of Labor Units – to provide a more cost-efficient conduit system than GRC or PVC-coated rigid steel conduit systems. In many ways, these developments are attributable to the increased use of RTRC conduit over steel conduit alternatives. These inherent benefits and advancements are now being recognized industry wide and are also being reflected within the safety and standards codes.

Underwriters Laboratories (UL) and the National Electrical Code (NEC)

In 2016, Champion Fiberglass submitted a petition to UL to revisit requirements for longer support spacing distances for Champion Fiberglass conduit. Testing verified that Champion Fiberglass conduit's strength, rigidity and light weight qualified for extended support spacing distances.

- In 2016, Champion Fiberglass's UL e-File number was updated to include extended support spacing distances for Haz Duct® XW Type conduit.
- In 2017, Champion Duct® Standard Wall (SW), Medium Wall (MW) [UL designates Champion Fiberglass MW for 5" and 6" as SW] and Heavy Wall (HW) conduit followed suit.

The extended support spacing distances for these conduit products meet the NEC's Article 355.30 Securing and Supporting requirements – the article states that "Conduit listed for support at spacing other than as shown in table 355.30 shall be permitted to be installed in accordance with the listing."

To date, Champion Fiberglass is the only fiberglass conduit manufacturer to have successfully proven their product meets all requirements for extended support spacing distances.

The newly extended support spacing distances for Champion Fiberglass conduit represent savings – fewer hangers and less strut are required, in addition to the lower labor man/hour costs that accompany the installation rates as previously cited. Add to that a lower material starting cost, and Champion Fiberglass conduit offers a complete conduit solution – one that saves time, lowers overall project costs and contributes to easier installation.

ADVANCING CODES AND REGULATIONS TO REFLECT FIBERGLASS CONDUIT'S CAPABILITIES

Champion Fiberglass has a history of working to advance fiberglass conduit usage codes and regulations.

» 2008

After NEC code review proposal by Champion Fiberglass, RTRC code was revised to allow XW fiberglass conduit for Class 1, Div 2 applications.

» 2015

Canadian Electrical Code approves XW-thickness fiberglass conduit's usage in Zone 1, Div 2 applications.

» 2016

Champion Fiberglass's UL e-File number was updated to include extended support spacing distances for Haz Duct® conduit.

» 2017

Champion Duct® Standard Wall, Medium Wall and Heavy Wall conduit feature expanded support spacing distances.

Extended support spacing distances, lower installation rates and lighter weight contribute to savings.

Champion Fiberglass conduit's support spacing distances are now comparable to those of GRC, while featuring a much lighter weight, easier field handling and lower installation rates according to the NECA (National Electrical Contractors Association) Manual of Labor Units. Compare Champion Fiberglass's weight and installation times by diameter with GRC conduit using the chart below.



DIAMETER	WEIGHT (in lbs) PER 100-FT. LENGTH OF DUCT		NECA LABOR RATES – AVERAGE INSTALLATION HOURS PER 100 FT. OF CONDUIT		
	GRC & PVC-COATED STEEL	CHAMPION DUCT® CONDUIT	GRC	PVC-COATED STEEL	CHAMPION FIBERGLASS
3/4"	105	17 (SW) 6x lighter	6	8	5.5
1"	153	19 (SW) 8x lighter	7	10	5.8
1-1/4"	201	23 (SW) 8.7x lighter	8	12	6
1-1/2"	246	33 (SW) 7.5x lighter	9	15	6.4
2"	334	38 (SW) 8.8x lighter	11	18	6.8
2-1/2"	527	46 (SW) 11.5x lighter	15	21	7.1
3"	690	60 (SW) 11.5x lighter	20	26	7.5
3-1/2"	831	65 (SW) 12.8x lighter	25	32	7.9
4"	982	72 (SW) 13.6x lighter	30	38	8.3
5"	1344	120 (MW) 11.2x lighter	38	45	8.6
6"	1770	142 (MW) 12.5x lighter	48	60	9

Expanded support spacing distances for Champion Fiberglass conduit vs. GRC

Champion Fiberglass conduit's UL Listed support spacing distances have doubled (and in some cases, tripled) for many conduit diameters. The following charts illustrate the increase in Champion Fiberglass conduit's support spacing distances, and allows comparison between the current, extended support spacing distances and those of GRC conduit by diameter.

Champion Fiberglass Duct® previous and current support spacing distances compared to GRC and PVC-coated steel



DIAMETER	PREVIOUS FIBERGLASS CONDUIT SUPPORT SPACING DISTANCE	CHAMPION DUCT® SUPPORT SPACING DISTANCES			GRC AND PVC-COATED STEEL SUPPORT SPACING DISTANCE
		Standard Wall	Medium Wall	Heavy Wall	
3/4"	3 ft.	10 ft.	—	—	10 ft.
1"	3 ft.	10 ft.	—	—	12 ft.
1-1/4"	5 ft.	10 ft.	—	—	14 ft.
1-1/2"	5 ft.	10 ft.	—	—	14 ft.
2"	5 ft.	12 ft.	—	—	16 ft.
2-1/2"	6 ft.	12 ft.	—	—	16 ft.
3-1/2"	6 ft.	12 ft.	—	—	20 ft.
4"	7 ft.	12 ft.	—	14 ft.	20 ft.
5"	7 ft.	—	13 ft.	14 ft.	20 ft.
6"	8 ft.	—	13 ft.	14 ft.	20 ft.

UL designates Champion Fiberglass MW for 5" and 6" as SW.

Champion Fiberglass Haz Duct®
previous and current support
spacing distances compared
to GRC and PVC-coated steel

2X - 3X
THE DISTANCE

DIAMETER	PREVIOUS FIBERGLASS CONDUIT SUPPORT SPACING DISTANCE	CHAMPION HAZ DUCT® XW TYPE SUPPORT SPACING DISTANCE	GRC AND PVC-COATED STEEL SUPPORT SPACING DISTANCE
3/4"	3 ft.	10 ft.	10 ft.
1"	3 ft.	10 ft.	12 ft.
1-1/4"	5 ft.	15 ft.	14 ft.
1-1/2"	5 ft.	15 ft.	14 ft.
2"	5 ft.	15 ft.	16 ft.
2-1/2"	6 ft.	15 ft.	16 ft.
3-1/2"	6 ft.	17 ft.	20 ft.
4"	7 ft.	17 ft.	20 ft.
5"	7 ft.	17 ft.	20 ft.
6"	8 ft.	17 ft.	20 ft.

See the savings for yourself.

If you'd like to make your own direct comparison, use the [Champion Fiberglass Conduit Calculator](#).

By entering your average hourly rate for installation, conduit diameter used, and length to be installed, you can quickly compare RTRC material and installation costs to four other commonly used conduit materials. Champion Fiberglass conduit offers concrete savings that go the distance.

EXTENDED SUPPORT SPACING DISTANCES. EXPANDED SAVINGS.



Champion Fiberglass strives to deliver innovative, leading-edge conduit products. These lightweight-yet-strong conduit offerings can be found in applications from tunnels to data centers to pipelines; fiberglass conduit is increasingly chosen for its corrosion resistance and ease of installation – Champion Fiberglass also delivers customized solutions, from color matching to designing conduit to your product specifications. Visit the website to learn more.

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