

How Expanded Support Spacing Distances for Fiberglass Conduit Build on Existing Benefits to Enhance Savings

Over the last decade, rigid conduit systems (both metallic and nonmetallic) have seen a marked increase in usage, gaining market share that used to belong to flexible conduit systems. It's clear that the use of rigid conduit is on the rise – this product's market share was 73% in 2016.¹

Why are rigid conduit systems (and fiberglass, or RTRC, conduit systems in particular) experiencing increased usage? In many ways, this increase in usage can be attributed not only to fiberglass conduit's inherent benefits, but to the efforts that have been made in ensuring that fiberglass conduit's advancements are reflected in safety and standards code.

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) 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 struts and hangers 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 PER 100-FT. LENGTH		NECA LABOR RATES – AVERAGE INSTALLATION HOURS PER 100 FOOT OF CONDUIT	
	GRC	CHAMPION FIBERGLASS	GRC	CHAMPION FIBERGLASS
3/4"	105	17 (SW) 6x lighter	6	5.5
1"	153	19 (SW) 8x lighter	7	5.8
1-1/4"	201	23 (SW) 8.7x lighter	8	6
1-1/2"	246	33 (SW) 7.5x lighter	9	6.4
2"	334	38 (SW) 8.8x lighter	11	6.8
2-1/2"	527	46 (SW) 11.5x lighter	15	7.1
3"	690	60 (SW) 11.5x lighter	20	7.5
3-1/2"	831	65 (SW) 12.8x lighter	25	7.9
4"	982	72 (SW) 12.8x lighter	30	8.3
5"	1344	120 (MW) 11.2x lighter	38	8.6
6"	1770	142 (MW) 12.5x lighter	48	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 infographics 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



DIAMETER	PREVIOUS FIBERGLASS CONDUIT SUPPORT SPACING DISTANCES	CHAMPION DUCT® SUPPORT SPACING DISTANCES			GRC 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.

Champion Fiberglass Haz Duct® previous and current support spacing distances compared to GRC

**2X - 3X
THE DISTANCE**

DIAMETER	PREVIOUS FIBERGLASS CONDUIT SUPPORT SPACING DISTANCES	CHAMPION HAZ DUCT® XW TYPE SUPPORT SPACING DISTANCES	GRC 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.

1. Bajaj, Seapee, 2016. Cable Conduit Systems Market by Type (Rigid Cable Conduit System, Metallic, Non-Metallic, Flexible Cable Conduit System, Metallic, Non-Metallic). Retrieved from AlliedMarketResearch.com

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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