

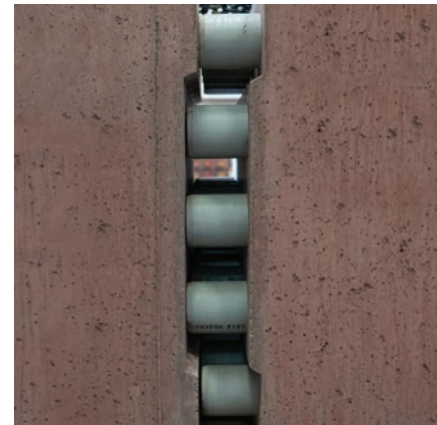
# RED•E•DUCT®

## Precast Electrical Duct Bank



## DUCT BANKS IN RECORD TIME

*The precast electrical duct bank system that cuts the time and cost of underground infrastructure while enhancing worker safety.*



EFFICIENCY ENGINEERED™



# Efficiency Engineered

## SPEED, STRENGTH, AND SAFETY. WITH RED-E-DUCT IT ALL COMES TOGETHER.

Engineered for efficiency, RED-E-DUCT consists of UL rated PVC conduits encased in high strength, thermal efficient concrete.

Prefabricated RED-E-DUCT sections are delivered to the job site ready to install. RED-E-DUCT requires no steel reinforcement, eliminates formwork and redi-mix delivery to the site. Once RED-E-DUCT is installed, trenches may be backfilled allowing immediate site access.

- *Requires fewer workers and less time to install*
- *Same day installation and immediate backfill*
- *Eliminates concrete-related weather delays*
- *Produced under factory-controlled conditions ensuring consistent quality*



# Designed for performance

## RED-E-DUCT STANDARD SECTIONS

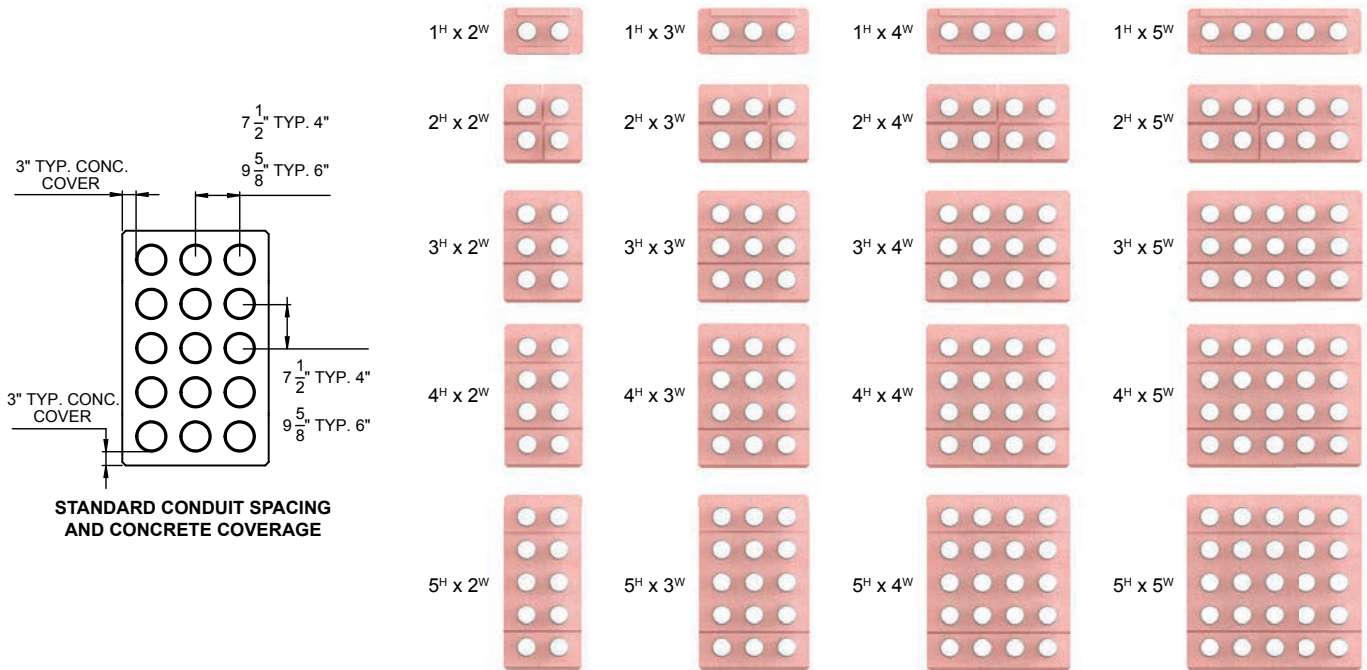
Standard sections may be set side by side, or stacked to accommodate most duct bank requirements.

**Section Lengths:** 116"

**Conduit Types:** Schedule 40 or Type Precast EB

**Conduit Sizes:** 4" or 6"

**Joint Types:** Gasketed or Slip Fit



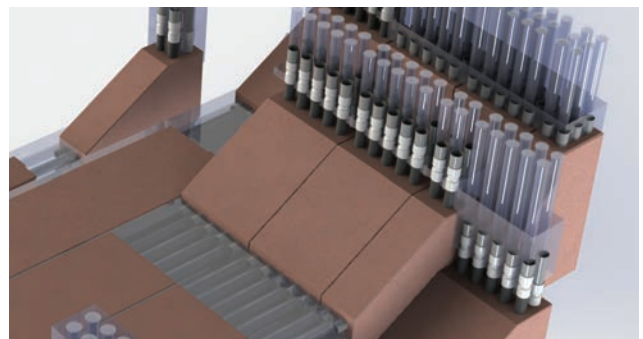
**Note:** Standard configurations shown. Custom configurations available. Joint and conduit types vary depending on project/application specifications.

### Designing with RED-E-DUCT

RED-E-DUCT digital models can be integrated seamlessly into the design team's digital project model using .stp or .dwg digital files. Armed with standard 3D templates, design teams can layout the underground electrical duct bank system in a simple select/copy/paste process. This streamlines the design process, resulting in shorter project schedules.

The RED-E-DUCT system is designed using standard 116" precast duct bank sections, in standard configurations featuring 1H x 2W to 5H x 5W conduits per section. By modeling these sections in appropriate combinations (single, side-by-side, and/or stacked), design teams can speed the planning, initiation, and completion of the most complex duct bank systems.

Through rapid collaboration, the RED-E-DUCT engineering team helps optimize the design to accommodate complex conduit routing, utilizing the fewest number of unique precast pieces and part numbers.



# Designed for performance

## RED-E-DUCT STANDARD STUB UPS

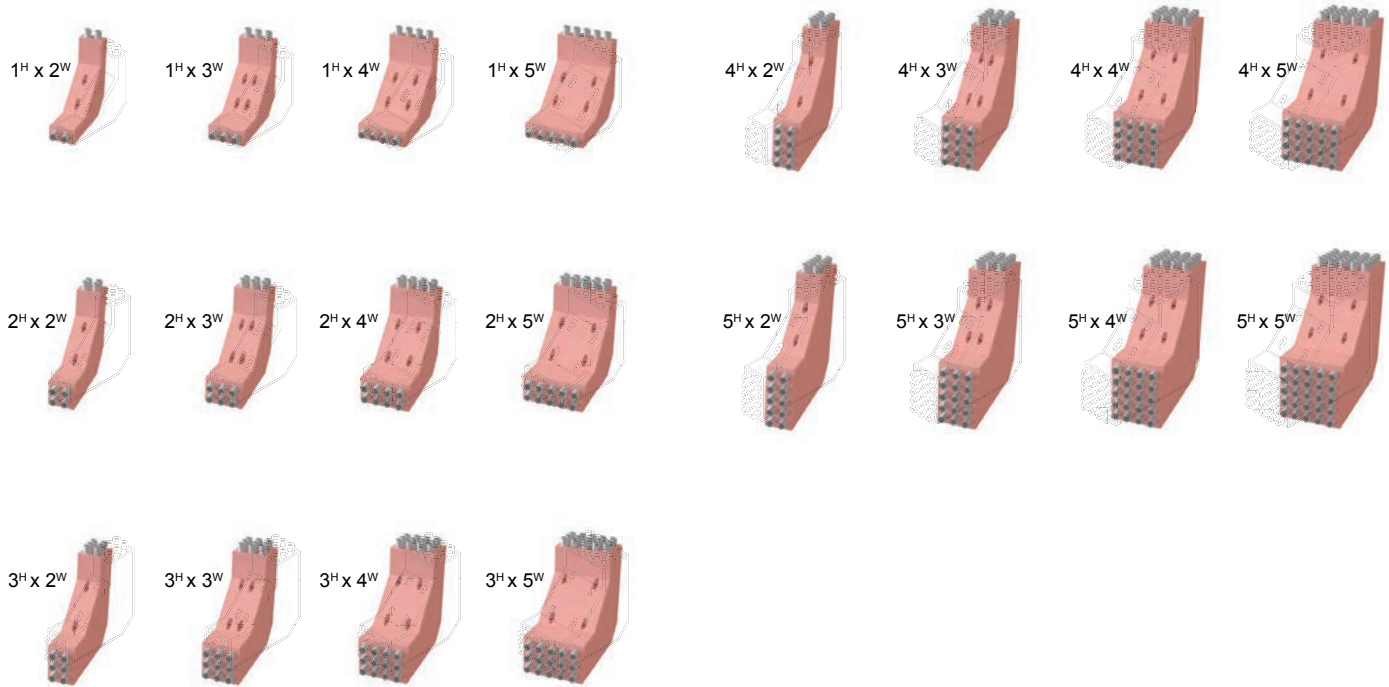
Use stub-ups to quickly achieve horizontal-to-vertical direction changes.

**Standard Sweep Radius:** 36"

**Conduit Types:** RTRC Fiberglass, Rigid Metal, or PVC

**Conduit Sizes:** 4" or 6"

**Joint Types:** Varies with Configuration



**Note:** Extended base versions available in 2- and 3-row stub-ups. Joint and conduit types vary depending on project/application specifications.

### Conduit Types

**PVC** UL 651 Standard for Schedule 40 Type Precast EB and A Rigid PVC Conduit and Fittings, NEMA TC-2, TC-6, TC-8, Type EB Federal Specification WC1094A

**RTRC Fiberglass** NEMA TC-14 RTRC Fiberglass and UL 2420 Standard for Below Ground Fiberglass Conduit

**Rigid Metal** UL 6 Standard for Safety Electrical Rigid Metal Conduit and ANSI C80.1 Standard for Electrical Rigid Steel Conduit (ERSC)

### Joint Types

Two types of PVC joints are offered for RED-E-DUCT standard sections:

**Gasketed** The joining system is watertight. The joint type employs a gasket which, when assembled, results in a leak-free, watertight seal.

**Slip Fit Non-gasketed** The joining system prevents concrete and debris from entering the joint. The joint is not watertight. Joint welding by the use of solvents is not required.

# Built for speed

*Getting duct banks started faster — and finishing sooner — saves time and allows project teams to commence above-ground construction faster. Here's how RED-E-DUCT revolutionizes the duct bank installation process, requiring less labor and time, reducing overall costs, and putting construction ahead of schedule.*

## **Immediate backfill**

Trenched areas can be backfilled immediately after installation, with no waiting for concrete pouring, curing, or testing. Rapid backfill means faster resolution of site access issues and traffic disruptions, along with less chance of rework later due to open-trench rain or weather events.

## **Minimal concrete work**

In straight RED-E-DUCT runs, there is no need for concrete formwork, pouring, curing, or testing.

## **Minimizes form work - reduces labor**

Where a change to vertical direction is required, the use of RED-E-DUCT stub-ups reduces the complexity of concrete and steel formwork.



# Built for speed



## Faster installation

RED-E-DUCT arrives at the job site ready for installation. With proper construction planning and lifting equipment, a standard crew can complete up to 14,000 conduit-feet per 8-hour shift. Trench excavation, installation, and backfill operations can be performed concurrently. Access to high-traffic areas can be restored in as little as one day.

## Less time in the trench

Because it is installed rapidly and backfilled immediately, RED-E-DUCT dramatically cuts the time workers are in the trench, as well as the time that open trenches are exposed at the job site.

## Enhanced worker safety

By reducing the amount of craft labor on the job, and the amount of time in the trench, RED-E-DUCT lessens the potential for work-related injuries. It also eliminates hazardous exposure to solvents and epoxies normally required for connecting PVC conduit (especially important in deep-trench areas where respirators are required).

## Fewer weather delays

RED-E-DUCT can be installed in virtually any weather condition in which it is safe for on-site labor to work, regardless of rain, freezing temperatures, or excessive heat.



# Rated for the job

*RED-E-DUCT components are encased in our proprietary, high compressive strength, fluidized thermal concrete, and manufactured under controlled conditions at a Forterra certified fabrication facility. The result is a new benchmark for performance to support critical underground infrastructure.*



- High strength thermal efficient concrete mix



- Shear key & joint system

## Superior thermal resistivity

RED-E-DUCT products offer superior, consistent, verified thermal resistivity and can be produced with Rho values in ranges less than 60 CM/W. This results in improved heat dissipation which improves the performance of underground cables.

## Heavy load performance

RED-E-DUCT products are engineered to withstand the heavy loads imposed by truck, crane, and roadway traffic, and meet HS20 and HL93 load performance requirements without requiring supplemental reinforcement. This makes RED-E-DUCT ideal for applications involving significant live and dead loading conditions.

## Integrated shear key

A unique, integrated shear key feature ensures that joined RED-E-DUCT sections will withstand shear forces at each joint location. The unique shear key design permits proper joint deflection to accommodate poor soil beds or future settlement issues.

## Patented joint system

The patented joint system utilized by RED-E-DUCT offers the right solutions for both watertight and non-watertight applications, without the need for epoxies, solvents, or glues.

*For watertight applications* - an integrated gasket within the conduit bell housing seals against the spigot, providing reliable, permanent watertight protection.

*For non-watertight applications* - a separate bell/spigot slip joint is used where watertight joints are not required.



# Tested for quality

*RED-E-DUCT is the result of 10 years of product design and development. Our production and quality assurance standards ensure RED-E-DUCT products will meet and exceed project specifications and test requirements. On-site concrete batch delivery and testing is not required for RED-E-DUCT.*

## Quality Assured

All RED-E-DUCT products are manufactured by a Forterra production facility that is certified by one or more of the following agencies:

- American Concrete Pipe Association (ACPA)
- National Precast Concrete Association (NPCA)
- Precast/Prestressed Concrete Institute (PCI)



## Strength testing

RED-E-DUCT performs on par with reinforced concrete, without the need for steel reinforcement. Finished

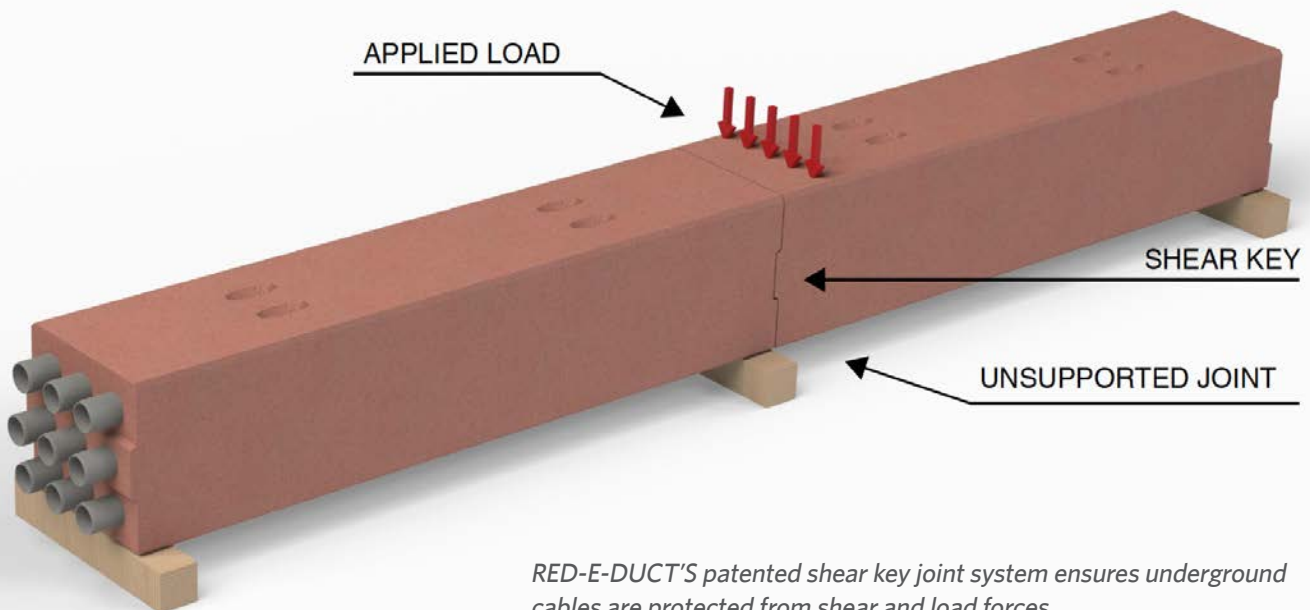
RED-E-DUCT components are subjected to shear and flexural testing procedures at the factory to ensure load bearing performance to HS20 and HL93 standards.

## Watertight joint testing

Joint testing of RED-E-DUCT components has been confirmed using NEMA-TC-2 Section 5.4 testing of the gasket joint, demonstrating no-leak performance, along with compliance to NEMA watertight requirements.

## Thermal resistivity testing

Concrete thermal resistivity verification is performed in-house or by independent 3rd party testing. Thermal dryout curves are available, and testing can be tailored to exact project requirements.



*RED-E-DUCT'S patented shear key joint system ensures underground cables are protected from shear and load forces.*

# Word from the trenches...

---

*" I've done plenty of duct bank installations. This precast method is great. It is so much easier than being down in the hole, trying to tie everything up. It cuts the time more than in half. "*

Installation Crew Member

---

*" It's so much easier. It saves on man hours, work, material. The way they join together is really smart. I've been doing electrical as a green helper since '90. I would highly recommend this on any job. "*

Electrical Craft Hand

---

*" We were awarded the contract to design and construct in 18 months, so we needed a plan to get on track fast. We sent IFC drawings to Forterra. Within 24 hours, their engineering team delivered digital 3D models of the RED-E-DUCT system, along with component drawings and layouts for approval, which happened quickly. Forterra's production team took the lead and completed production ahead of schedule. "*

Design Engineer

---

*" The fast buildup of the on-site inventory with only a few part numbers is a big advantage. Since the parts can be used at multiple locations on site, it helps the construction team accommodate changing priorities. Working through weather is another big advantage. Plus saving the time pouring, curing, and testing. It's just faster and more efficient. "*

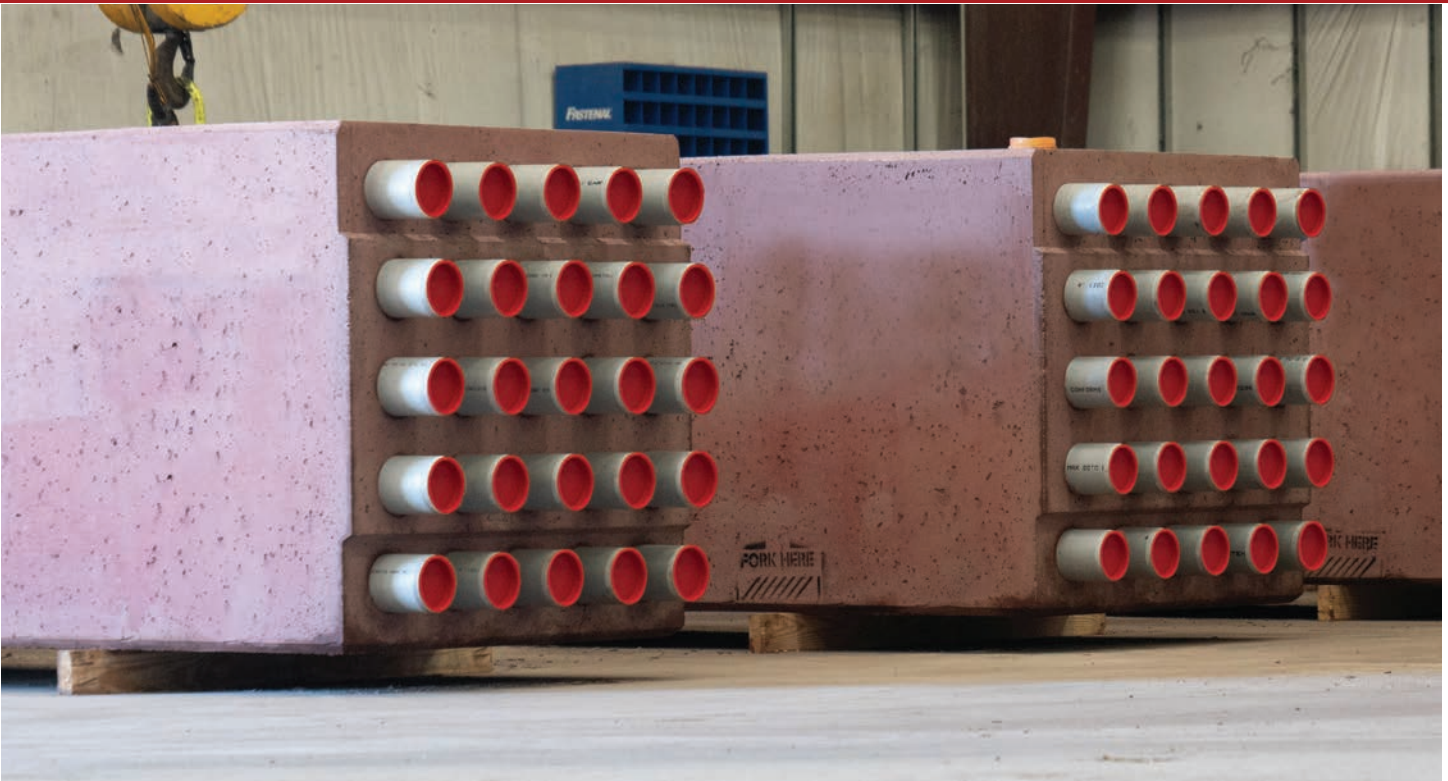
Construction Scheduler

---

Companies like **Wood, AECOM, ExxonMobil, Bechtel,** and **Chevron** are deploying RED-E-DUCT to reduce design time, improve constructability, and finish underground installation faster — allowing their construction teams to start above-ground work sooner.



# Efficiency Engineered



## RED•E•DUCT®

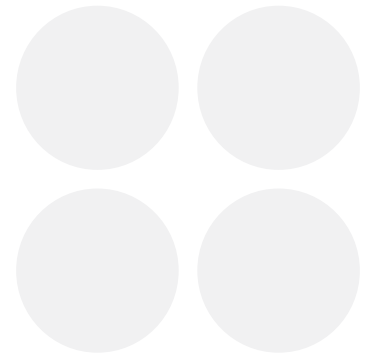
Find out how RED-E-DUCT can improve your next project

Call the Engineered Products Application Team at:  
844.733.3828 (844.RED.DUCT)

Or send your request directly to  
[info@rededuct.com](mailto:info@rededuct.com)

[rededuct.com](http://rededuct.com)

NOTHING IN THIS CATALOG SHOULD BE CONSTRUED AS A WARRANTY. APPLICATIONS SUGGESTED HEREIN ARE DESCRIBED ONLY TO HELP READERS MAKE THEIR OWN EVALUATIONS AND DECISIONS, AND ARE NEITHER GUARANTEES NOR WARRANTIES OF SUITABILITY FOR ANY APPLICATION. CONTECH MAKES NO WARRANTY WHATSOEVER, EXPRESS OR IMPLIED, RELATED TO THE APPLICATIONS, MATERIALS, COATINGS, OR PRODUCTS DISCUSSED HEREIN. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR ANY PARTICULAR PURPOSE ARE DISCLAIMED BY CONTECH. SEE CONTECH'S CONDITIONS OF SALE (AVAILABLE AT [WWW.CONTECHES.COM/COS](http://WWW.CONTECHES.COM/COS)) FOR MORE INFORMATION.



**CONTECH®**  
ENGINEERED SOLUTIONS

Get social with us: [f](#) [in](#) [@](#) [v](#)

800-338-1122 | [www.ContechES.com](http://www.ContechES.com)

U.S. Patent 20120298244. Other patents pending.