STEEL CONDUIT

Space Age Protection for NASA

United Space Alliance, Kennedy Space Center at Cape Canaveral

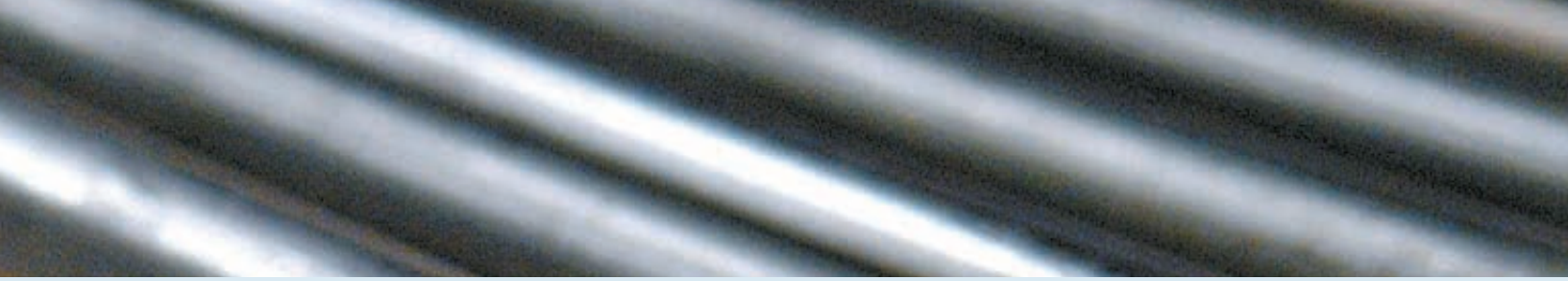
STEEL CONDUIT'S STRENGTH, PROTECTIVE FUNCTIONS,

Maintenance Engineer Dan Dermody is one of thousands of dedicated men and women behind the success of America's space shuttle program. And steel conduit is one of the products that help him do his job effectively.

Dermody works for United Space Alliance (UPA), a company formed in the early 1990s to consolidate the many functions involved in space flight operations and to gradually relieve the National Aeronautics & Space

Administration (NASA) of this now-almost-routine work. With a 25,000-square-foot plant on the grounds of the Kennedy Space Center at Cape Canaveral, UPA refurbishes America's space shuttle fleet prior to each shuttle launch.

Steel Conduit. Get wired for the future.



EASE OF INSTALLATION GIVE SPACE SHUTTLE A BOOST

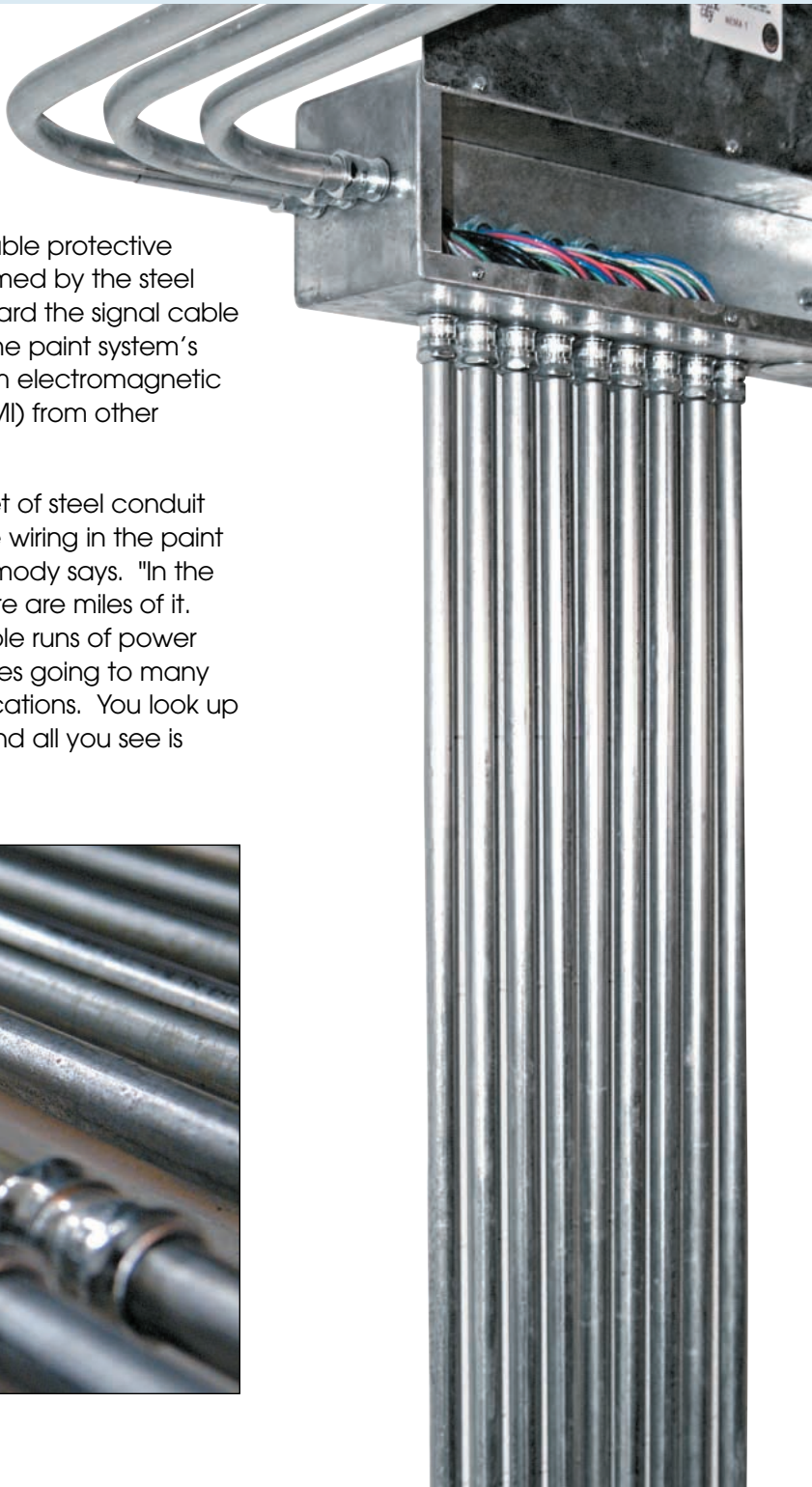
Dermody's particular area of responsibility is in the robotic paint system that sprays an insulating coating on the shuttles' solid rocket boosters. The system's two robot cells spray a two-part epoxy coating that contains minute beads of glass and granulated cork.

Steel Conduit Protects Conductors from Physical Damage and EMI

"We use steel conduit to protect the paint cells' electrical conductors," he says. "Protection from physical damage by forklifts and other plant equipment is part of the function of the steel conduit. Another part is protection from a build-up of the spray itself. Conduit keeps the wiring clean and in place and keeps it from becoming covered with spray."

Another invaluable protective function performed by the steel conduit is to guard the signal cable that operates the paint system's flow meters from electromagnetic interference (EMI) from other power sources.

About 1,000 feet of steel conduit are used for the wiring in the paint spray cells, Dermody says. "In the entire plant there are miles of it. There are multiple runs of power and signal cables going to many different test locations. You look up at the ceiling and all you see is steel conduit."



Strength of Steel Conduit a Major Advantage

Dermody normally specifies rigid steel conduit or Electrical Metallic Tubing (EMT) because of their strength and rigidity. "You can't place a clamp to support flexible tubing every five or six feet," he says.

The fact that steel conduit is recyclable also is helpful. "We develop enhancements to our paint system every few years, and when we do, we can just replace the conductors within the existing steel conduit."

Dermody says he prefers steel conduit to other types of conduit. "It's excellent for equipment grounding, it's exceptionally strong, it's easy to work with, it's relatively inexpensive and you can run it anywhere," he says. "You can crash a forklift into steel conduit and you don't hurt it."

The Steel Tube Institute

The Steel Tube Institute was founded in 1930 and sponsors cooperative member efforts to improve manufacturing techniques for conduit and other tubular steel products and informs customers and fabricators about these products' utility and versatility. It is headquartered in Coral Gables, Florida.

Steel Conduit Provides Added Protection

Steel conduit protects electrical conductors against mechanical and electrical damage, and provides excellent grounding for electrical equipment. It also protects against electromagnetic fields (EMF) that could hurt the performance of nearby computers and other electronic equipment. There are three basic types: Rigid Steel Conduit (GRC); Intermediate Metal Conduit (IMC); and Electrical Metallic Tubing (EMT).

Free GEMI Analysis Software Available

The Georgia Tech study that confirms the EMI shielding advantages of steel conduit is incorporated in the Grounding and ElectroMagnetic Interference (GEMI) analysis software, available free from the Steel Tube Institute. The GEMI CD helps you accurately calculate the electromagnetic field density of a network design for conduit-enclosed circuits. It also helps you confirm that your system design complies with the equipment grounding requirements of the NEC.

For your free GEMI CD, contact the STI. Log onto www.steelconduit.org and download it at no cost.

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