



PIPE AND CONDUIT WRAPPING

Overview:

There are endless industries and applications that require pipe wrap and insulation. These materials are commonly used to wrap fuel lines, exhaust systems, process piping, steam lines, industrial equipment, and electrical conduit in the automotive, aerospace, and construction industries, to name a few. The three primary reasons that one would need to wrap a pipe are:

- 1. Thermal Insulation:** Insulating and aluminized fabrics are used to minimize heat loss. For example, our ZetexPlus tapes are commonly used in the automotive industry to wrap exhaust pipes. Wrapping the pipe with an insulating tape ensures a more complete combustion for fuel efficiency and lower emissions. The same tapes can also be used to thermally insulate cold pipes to protect them from exterior heat.
- 2. Safety and Fire Protection Applications:** Insulating fabrics are used to cover hot pipes to protect workers from burns and to protect nearby equipment from damage. For example, our red Zetex tape is commonly used to wrap and color code gas lines for identification and safety purposes.
- 3. Cryogenic Insulation:** It can be necessary to wrap outdoor and underground pipes to prevent them from freezing in cold weather. Our products are infrequently used for this application because they are engineered for high temperature environments, however, fiberglass can tolerate temperatures as low as -400°F (-240°C) and will not become brittle at low temperatures, like some alternative fabrics.

Newtex Solutions:

Zetex® and ZetexPlus® fiberglass tapes and tubings are commonly used in thermal insulation and heat protection applications. Zetex and ZetexPlus do not age over time so these products are good for long-term thermal insulation applications. Fiberglass is commonly used for pipe insulation because it is a relatively inexpensive choice when compared to alternative options. Zetex and ZetexPlus tapes are available in premium and commercial grade weaves, a variety of thicknesses, and widths ranging from ½" to 8". Tubings are available in a variety of diameters and with wall thicknesses of 1/8" and 1/16". Tubings are commonly used to insulate and protect hydraulic and electrical lines and cables.

Z-Flex® Aluminum Foil (AF) and Z-Flex Multilayer Aluminized (MLA) tapes have exceptional reflectivity, reflecting up to 95% of radiant heat. They also resist molten metal splash. The aluminized side of the tape should face the heat source to provide maximum thermal insulation. Z-Flex AF protects against moisture and chemicals, however, it is only suitable for static applications because it will not hold up in environments where frequent movement, vibration, twisting, or stretching occurs. Z-Flex MLA tapes are more expensive, but they handle non-static environments well. Z-Flex tapes are commonly purchased with a pressure sensitive adhesive (PSA) backing designed to hold the tape securely in place during application. All tape products are available with PSA. Z-Flex AF and Z-Flex MLA fabrics are also available as tubing. Aluminized tubing can be used to protect wiring harness and hydraulic lines in automotive applications.

Z-Tuff™ Silicone products are commonly used as jacketing for mechanical insulators in outdoor applications. Silicone handles the elements well: It has good ultra violet resistance and it is monolithic, meaning that it is not permeable. In outdoor pipe wrapping applications, a monolithic jacketing material is critical because if moisture gets underneath the insulation it will cause corrosion and stress cracking.

To learn more about Newtex's fabrics, tapes, and tubings designed for thermal management and fire protection applications please visit newtex.com/npm