



Dow Electrical & Telecommunications

The Solution for Durable, Flexible Semicon Jacketing

Proven jacketing solution

Since the introduction of DHDA-7708 in 1990, Dow Electrical & Telecommunications (Dow E&T) has supplied semiconductive jacketing for medium, high and extra-high voltage (EHV) power cables. It combines the conductive properties of a semicon with the mechanical properties and durability of a conventional jacket. Compared to conventional thermoplastic semiconductive materials, this time-proven compound offers:

- Improved environmental stress-crack resistance
- Improved low-temperature properties
- Improved thermomechanical properties
- Reduced adhesion to strippable insulation shields
- Improved cut-through and abrasion resistance
- Reduced moisture vapor transmission

Advantages

DOW ENDURANCE™ DHDA-7708 BK is appropriate for MV to EHV applications and can be used in either of two ways to offer significant benefits to end users:

- The cable jacket can be extruded entirely of this semiconducting compound.
- The compound can be applied as a thin layer over an existing jacketing grade during manufacture, or for the purpose of additional transient voltage protection tests.

In the former case, when used as the sole jacketing material for MV, DOW ENDURANCE DHDA-7708 BK provides continuous earthing (grounding) along the entire cable. This affords additional protection from voltage surges and transients, such as lightning. The compound can be used for both land and subsea cables. Continuous earthing can also be advantageous in regions of high ground resistance. Cables made with DOW ENDURANCE DHDA-7708 BK as a sole jacket offer power delivery systems the benefits of greater flexibility in colder temperatures, easier stripping and overall durability,

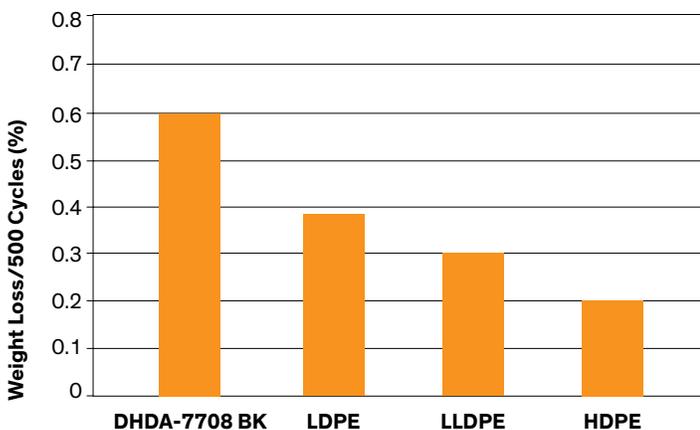
reducing system cost at the time of installation and over the life of the cable.

When used as a thin layer for HV/EHV, DOW ENDURANCE DHDA-7708 BK provides a reliable earth (ground) continuity path to allow integrity testing of the cable jacket upon installation or years later. The material can be used in any situation where graphite has traditionally been used, but is a particularly good choice where cables are installed in duct systems or tunnels – or where ground conditions make testing graphite-coated cables difficult. Unlike graphite, DOW ENDURANCE™ DHDA-7708 BK resists being washed and abraded from the surface of the cable during installation and over years of service.

Tested top performance

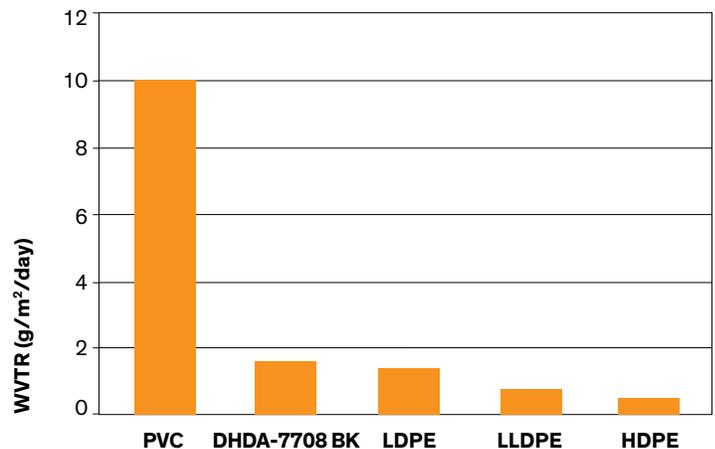
For more than 20 years DOW ENDURANCE DHDA-7708 BK from Dow E&T has set the standard for durability and ease of installation in semiconductive jacketing materials. The charts here show its superior performance compared to conventional semicon materials in resisting moisture transmission and abrasion damage.

Abrasion Resistance of Various Jacket Materials

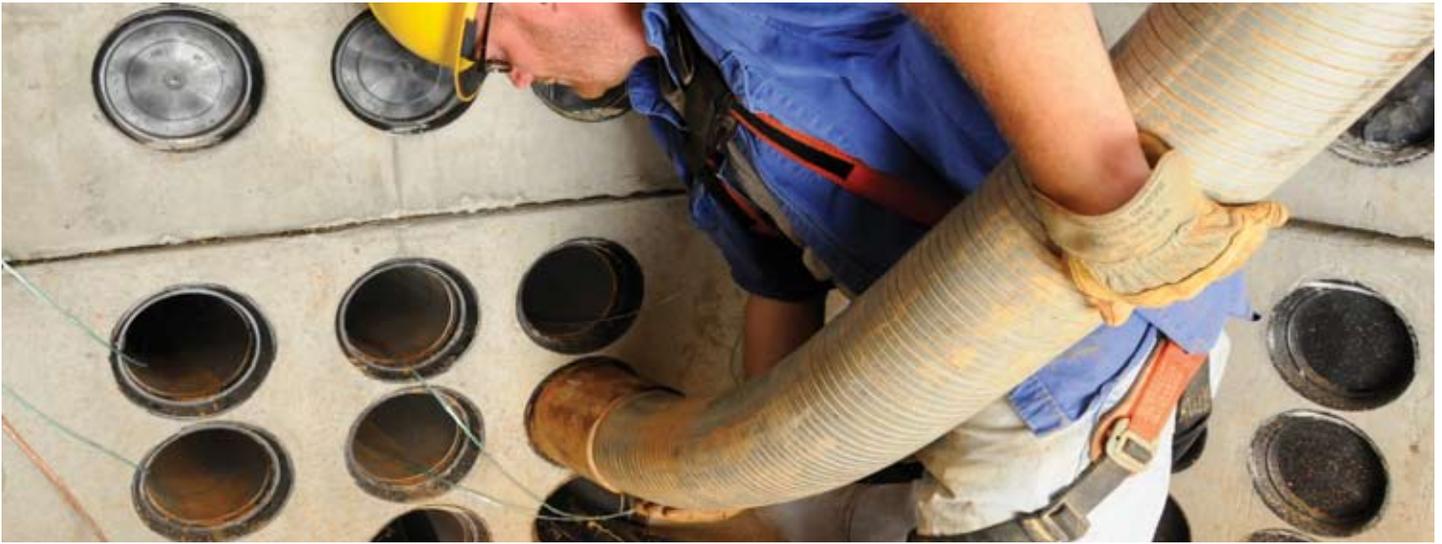


Abrasion resistance is important for cables that are pulled through ducts or directionally bored channels. Modern semicon jackets made with DOW ENDURANCE™ DHDA-7708 BK have abrasion resistance properties similar to insulating jackets.

Water Vapor Transmission Rates of Jacket Materials



Water vapor transmitted through cable jacket causes corrosion of the neutral wires and metal sheath, shortening cable life. Semicon cable jacketing made with DOW ENDURANCE DHDA-7708 BK is highly effective in protecting cables from this kind of failure.



Capabilities and commitment

Beyond Dow's extensive R&D resources, Dow E&T also utilizes its own industry-dedicated Global Technology Centers where we are continually evaluating, anticipating and responding to industry demands and trends. We are committed to employing the latest research technology and tools to help ensure that our chemistry-enabled products truly perform for every customer along the value chain.

Our intensive testing and validation process exemplifies our commitment to world-class practices that meet or exceed industry standards for quality, and fuel our focused pursuit of new ideas.

In addition, we focus on making certain that every material we formulate meets the specific processing and performance requirements of current and next-generation wire and cable products.

Our solutions offer cable manufacturers and end users a combination of materials that exhibit mechanical strength, flexibility, electrical properties and aging stability. These solutions, that encompass formulation through installation, are made possible because we work together with you to match our technical experience to your specific needs.

About Dow Electrical & Telecommunications

Dow E&T, a business unit of The Dow Chemical Company ("Dow"), is a leading global provider of products, technology, solutions and knowledge that sets standards for reliability, longevity, efficiency, ease of installation and protection that the power and telecommunications industries can count on in the transmission, distribution and consumption of power, voice and data. Understanding that collaboration is essential to success, Dow E&T works together with cable makers, other industry suppliers, utilities, municipalities, testing institutes and other organizations around the world to help develop solutions and create mutual value that will sustain these industries for years to come. For more information, visit www.dowhvpower.com

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