



# HELP KEEP THE POWER ON LONGER, STRONGER

ENDURANCE™ HFDC-4202 INSULATION COMPOUND:  
TR-XLPE TECHNOLOGY ENABLING CABLE SYSTEMS WITH LOWER TOTAL LIFE CYCLE COST



## ADVANCING TREE-RETARDANT TECHNOLOGY FOR MORE THAN THREE DECADES

**1983**  
**FIRST COMMERCIAL TR-XLPE**  
Dow introduces tree-retardant crosslinked polyethylene (TR-XLPE) technology<sup>(3)</sup> with demonstrated long life performance  
**2X LONGER LIFE**

**1998**  
**ENDURANCE™ HFDB-4202**  
The excellent electrical performance of first generation plus more robust cable manufacturing  
**IMPROVED PROCESSING**

**2012**  
**ENDURANCE™ HFDC-4202**  
Enabling next-generation cable systems with significantly longer performance life than competitive materials<sup>(4)</sup>  
**5X LONGER LIFE**



<sup>(1)</sup> Data per tests conducted at the Marshall Technology Center under contract to Dow. Additional information available upon request. Properties shown are typical, not to be construed as specifications. Users should confirm results by their own tests. <sup>(2)</sup> 63.2% failure. <sup>(3)</sup> This technology was acquired with Union Carbide Corporation (UCC). <sup>(4)</sup> Based on Accelerated Cable Life Test (ACLT) under 4,4 conditions. <sup>(5)</sup> For more information, visit <https://www.rd100conference.com/awards/winners-finalists/5430/underground-power-distribution-upgrade/>.  
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# EXTEND CABLE LIFE WITH ADVANCED TR-XLPE



Since 1983, Dow's proprietary water-tree-retardant technology for crosslinked polyethylene (TR-XLPE) has powered continuous improvement through three generations of high quality cable insulation solutions.

## INNOVATIVE PROGRESS

Cable makers and utilities asked for an even better cable compound—and Dow responded. ENDURANCE™ HFDC-4202 Insulation Compound is tested for voltages from 5-46 kV and enables lower total life cycle cost through:

- Longer life than other TR-XLPE products
- Improved electrical performance in wet underground environments
- Reduced strip force (when used with Dow insulation shields<sup>(1)</sup>) for easier, cleaner cable termination and splicing
- Improved manufacturing robustness
  - Superior scorch retardance for improved cable quality
  - Optimized cure performance/consistent processing
  - Compatibility with existing extrusion equipment

## PROVEN PERFORMANCE

As shown on the previous page, ENDURANCE™ HFDC-4202 demonstrates excellent wet aging under Accelerated Cable Life Test (ACLT) protocols. In fact, Dow's next-generation TR-XLPE can help distribution cables last up to five times longer than competitive materials.<sup>(2)</sup>

Figure 1 shows the excellent performance of ENDURANCE™ HFDC-4202 in CENELEC testing—with all samples significantly exceeding not only the European standards, but also the enhanced German requirements.

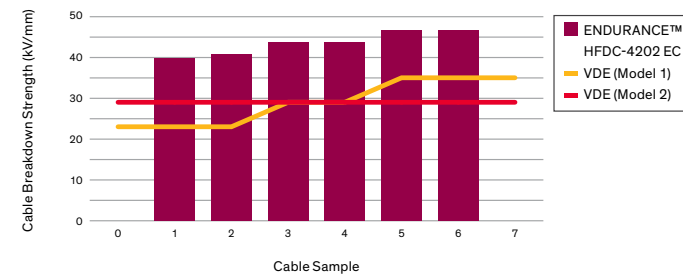
## CAPABILITIES AND COMMITMENT

### All TR-XLPE is not created equal.

ENDURANCE™ compounds for cable systems offer cable makers and utilities exceptional mechanical strength, electrical properties and aging stability. By working side-by-side with customers, we're able to align Dow technology and experience with individual application needs. Intensive testing and validation helps ensure that every material Dow formulates meets the specific processing and performance requirements of current and next-generation wire and cable products. This passionate focus on quality not only exemplifies Dow's commitment to producing high class solutions—but also drives our pursuit of innovative ideas.

Contact your Dow representative or visit [www.dowendurance.com](http://www.dowendurance.com) for more information.

Figure 1: CENELEC HD 605 S1/VDE 0276-620/A3 Performance<sup>(3)</sup>



## GLOBAL TESTING

Cables insulated with ENDURANCE™ HFDC-4202 meet or exceed qualification requirements in a vast number of regions, including:

- Association of Edison Illuminating Companies (AEIC)
- Insulated Cable Engineers Association (ICEA)
- Underwriters Laboratories (UL)
- Canadian Standards Association (CSA)
- Normas Mexicanas (NMX)
- Russian GOST R 55025
- CENELEC Harmonized Document
- German VDE 0276-620:2010-11

<sup>(1)</sup> Dow recommends a systems approach to cable construction to ensure the highest possible performance throughout the life of the cable. Dow insulation and semi-conductive compounds (shields and jackets) have been designed to work exceptionally well together. <sup>(2)</sup> Based on ACLT under 4,4 conditions. <sup>(3)</sup> Data per tests conducted by multiple organizations. Additional information available upon request. Properties shown are typical, not to be construed as specifications. Users should confirm results by their own tests.

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