

DOW

®

REVOLoop™ 3215 BK PCR-containing cable jacket compound

REVOLoop™ Recycled Plastics Resins for cable jacketing

REVOLoop™ Recycled Plastics Resins are formulated, single-pellet, high-performance resins made with post-consumer recycled content. The incorporated post-consumer recycled (PCR) material for cable jacketing applications help address customers' varying needs and circularity goals across the globe. Adopting PCR in wire and cable products helps divert plastic waste from landfills and the natural environment by introducing it to the circular ecosystem, underscoring Dow's ambition to Transform the Waste by commercializing three million metric tons of circular and renewable solutions annually by 2030.



Consistent quality
and product safety



Certified PCR



Promotes
circularity

Recycled material, virgin performance

REVOLoop™ 3215 BK is a black LLDPE jacketing compound containing 30% PCR resin that could be used in power and telecom cable jacketing applications. Cable jackets represent the first line of defense for improved cable reliability. This grade is part of a family of PCR resins containing materials that combine convenience, efficiency, and quality, while offering sustainability benefits.

Key benefits of the grade are:

- Single inventory management
- Consistent and efficient processability
- Reliable quality control
- Matching virgin compound performance

From post-consumer waste to cable jackets



PCR Material from waste



REVOLoop™ 3215 BK




Cable Jacketing

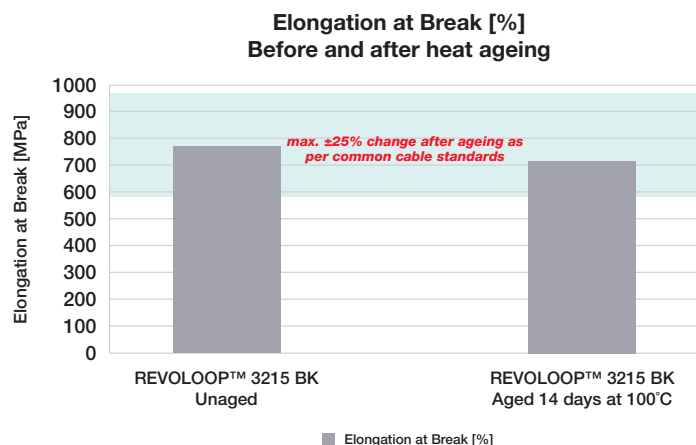
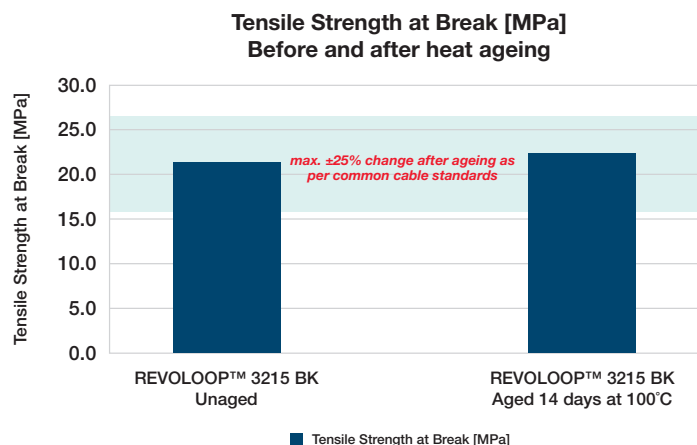
Long-term mechanical performance

Cables need to operate for long periods of times, so long term aged mechanical performance cannot be compromised. Mechanical properties before and after heat ageing for 14 days at 100°C showed that the incorporation of PCR material does not negatively impact performance over time. In all cases, minimum mechanical property requirements were met before and after ageing. In addition, the observed change in these properties after heat ageing was maintained within 25% of the original unaged values,

as is mandated by the most common cable standards like IEC 60840 and HD 620. The material has shown only small changes in mechanical properties over the tested time period indicating good stability.

Revoloop™

recycled plastic resins by 



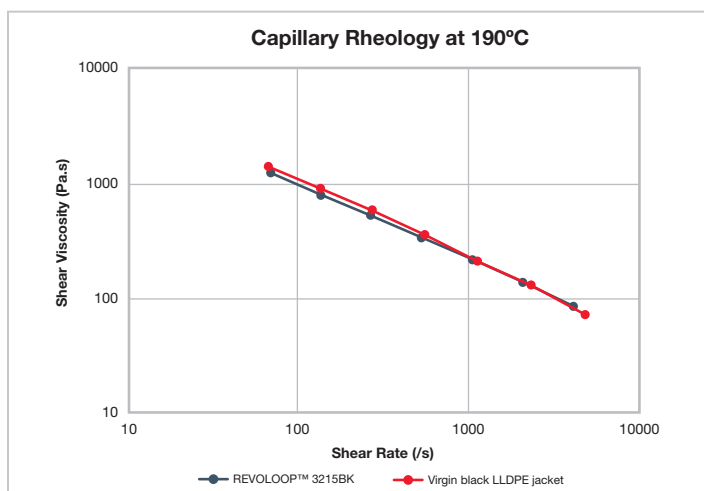
Excellent environmental stress crack resistance

Environmental stress crack resistance (ESCR) is one of the most important performance requirements of cable jackets. It ensures the integrity of a cable jacket over long periods of time, also when exposed to various harsh environmental conditions.

PCR resins generally exhibit lower ESCR compared to virgin resins after undergoing additional processing cycles, like in mechanical recycling. REVOLoop™ 3215 BK Black Cable Jacket Compound incorporates 30% post-consumer recycled resins while maintaining an impressive ESCR performance with more than 4000 hours with no cracks during exposure to 10% Igepal solution at 50°C as per ASTM D1693.

Similar processability to virgin materials

Resin rheology is key for easy processing in jacket extrusion lines. The capillary rheometry test conducted at 190°C shows resin viscosity over a wide range of shear rates. Extrusion processing of the PCR-containing resin REVOLoop™ 3215 BK Black Cable Jacket Compound is very similar to a virgin LLDPE jacket compound, considering viscosity thinning at extrusion shear rate ranges.



By combining vast industry knowledge, cutting-edge technology development and reliability as a trusted one-stop-shop supplier for the wire and cable industry, Dow is contributing to a transformation in the processing and application of PCR ingredients – offering customers more global options to meet their goals.

Images: AdobeStock_393586080; 034920_REVOLoop_20240821_0003; AdobeStock_151189736

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