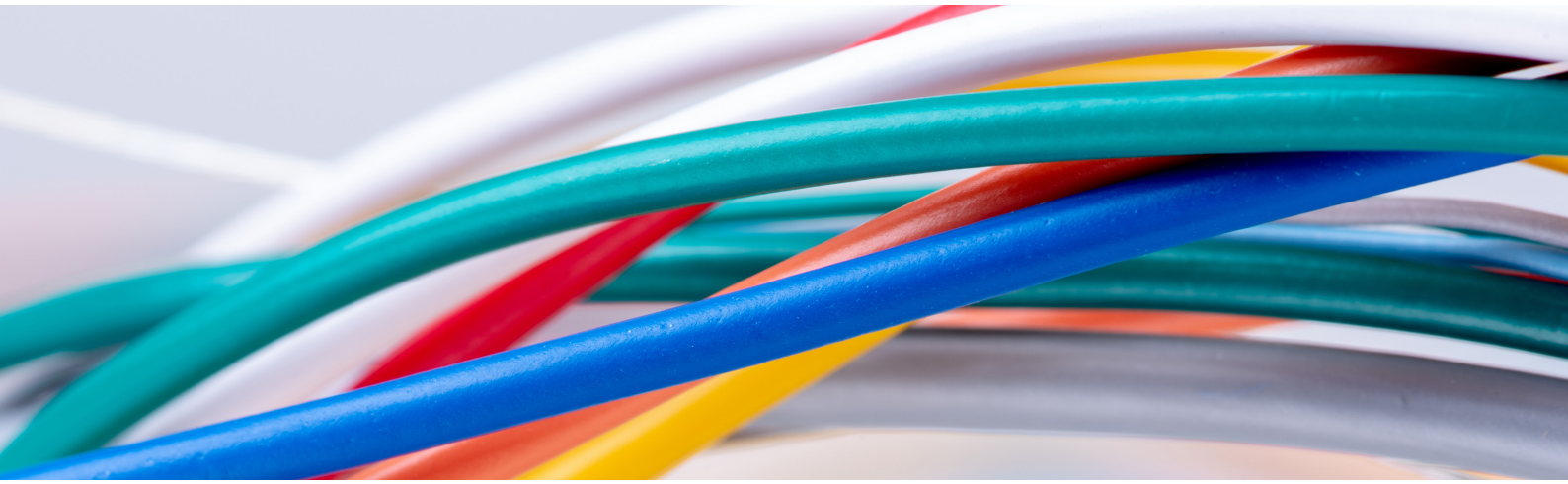
ExxonMobil
Signature Polymers

Case Study



Exceed™ Flow+

Exceed™ Flow+ metallocene PE-based masterbatch carrier improves wire and cable performance

- Enhanced heat shock resistance
- Improved tensile strength
- Enhanced dispersion
- Excellent production efficiency

Challenge

Develop a masterbatch carrier to enhance wire and cable performance

Existing masterbatch formulations comprise a carrier, typically LLDPE or HDPE, and a coloring pigment such as carbon black. Even though the masterbatch is used in small doses, the carrier used can play a critical role in the strength of the final product.

BeiHuaGaoKe (BHGK) was founded in 2001 and is today a leading masterbatch manufacturer in China, especially in carbon black masterbatch production. Headquartered in Beijing with an office in Shanghai, they have a manufacturing facility in North China. BHGK wanted to improve the performance of its masterbatch products used for wire and cable applications, such as jacketing.

Solution

Metallocene PE-based masterbatch carriers for enhanced performance

ExxonMobil and BHGK collaborated to test masterbatch carrier solutions that would improve carbon black dispersion and production efficiency, while enhancing final product strength.

ExxonMobil recommended replacing traditional LLDPE/HDPE carriers with our metallocene polyethylene (PE) polymers. Formulations were developed and tests conducted to examine the mechanical performance of jacketing when using different carriers such as LLDPE and our metallocene PE products.

Results

Exceed Flow+ based masterbatch carrier improves heat shock resistance and tensile strength

When Exceed Flow+ m 0938.RA metallocene PE is used as a masterbatch carrier, jacketing compounds demonstrated enhanced performance compared to a traditional LLDPE carrier in these areas:

- Enhanced heat shock resistance
- Better carbon black dispersion (40% carbon black wt%)
- Improved tensile strength and elongation
- Excellent production efficiency

BHGK

Contact us for more information: **exxonmobilchemical.com/sp**

ExxonMobil
Signature Polymers

Bring your impossible

What's new: ExxonMobil Signature Polymers

All our polymers are now positioned under a single portfolio brand: Signature Polymers. The aim is to simplify our product architecture and naming to improve portfolio navigation for you. We would like to stress that our commitment to high quality products remains the same, it is the names that change. Everything else remains the same. We will be making these modifications over the next six months so you will see both old and new grade names highlighted during that time.

Here's a quick overview of brands and grade names that have changed in this document:

Legacy commercial name	New commercial name
Enable™ 4009	Exceed™ Flow+ m 0938

Some of our existing Exceed, Achieve, Paxon and premium PP/HD grades have moved to Exceed brand; most existing Enable grades have moved to Exceed Flow[+]; most of our existing Exceed XP grades have moved to Exceed Tough[+]; most of our existing Exceed S grades have moved to Exceed Stiff[+]. More details here **https://www.exxonmobilchemical.com/en/brands/signature-polymers/exceed_high_performance_polymers** or contact your ExxonMobil representative to know more.

Want to see what's changed in our portfolio? Go to exxonmobilchemical.com/sptransform