

# FireRetard<sup>®</sup>



## FireRetard<sup>®</sup> leaves nothing to chance

Perlon<sup>®</sup> is your proficient partner in the development of inherent flame retardant for polyester and polyolefin monofilaments. By dosing with fire retardants during the extrusion process, permanent flame resistance is achieved over the entire lifetime of the FireRetard<sup>®</sup> monofilament. The polymers PPS and PEEK have polymer-based flame resistance. An additional finish is not necessary. Our product range of flame resistant monofilaments covers both round diameters as well as various profiles - from natural colours to spun dyed. FireRetard<sup>®</sup> is also available halogen-free.

The FireRetard<sup>®</sup> monofilaments are qualified in accordance with different international standards such as UL94 or VW1. The results are based on two fire tests: UL 94 and LOI to EN ISO 4589-1. Perlon<sup>®</sup> produces the flame retardant monofilament to QualiFil standard for industrial textiles.

## Perlon<sup>®</sup> – The Filament Company

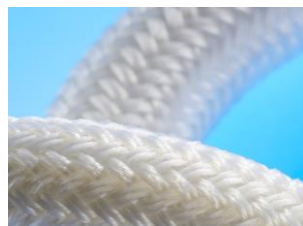
Perlon<sup>®</sup> – The Filament Company – is an innovative, global group of companies specialized in the manufacture of synthetic filaments. Perlon<sup>®</sup> generates annual sales of more than 150 million euros, employs about 850 people and has a production capacity of 23,000 tons. We operate from locations in Germany, Poland, in the USA and in China.

Through our technical expertise and strength in innovation we develop premium quality products for our customers. The comprehensive product portfolio is based on a variety of raw materials. In line with the intended application, these are modified and processed into high quality, application-specific filaments. The consistent high quality of our products sets worldwide benchmarks.

## The advantages at a glance

- Very high flame retardancy
- Very low smoke development
- Halogen-free types
- Permanent flame protection
- Individual solutions possible by adjusting the flame retardant characteristic
- No post-treatment of the end product necessary
- Well-known good mechanical properties of PET
- Low and high shrinkage possible
- Various colours on request
- Diameter range, depending of polymer, of 0.064 mm to 2.00 mm
- Basis polymers PET, PP, PPS and PEEK

## Applications



|                   |  |
|-------------------|--|
| Automobile        | Hoses, cable protection, interior                        |
| Public transport  | Hoses, insulation, seat design                           |
| Aircraft industry | Hoses, insulation, seat design                           |
| Textile industry  | Home textiles, office furniture, carpet, spacer textiles |

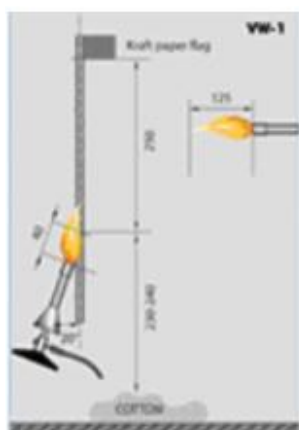
## Technical specifications

Our flexible processes render various product types possible with different characteristics:

| Material                | LOI-Value *[%O <sub>2</sub> ]                                 |
|-------------------------|---|
| Cotton                  | 18,2  |
| PP                      | 18,6  |
| PET                     | 21 - 25   |
| PA                      | 21 - 28   |
| Wool                    | 25  |
| Kevlar                  | 29  |
| PVC                     | 35  |
| PEEK                    | 37 - 39   |
| PPS                     | > 40  |
| FireRetard <sup>®</sup> | 30 - 40<br>the flame retardant characteristics are adjustable |

| Monofilament   | 9**N                    | 9**WN                   |
|--|-------------------------|-------------------------|
| Material   | FireRetard <sup>®</sup> | FireRetard <sup>®</sup> |
| Diameter (mm)  | 0,25                    | 0,25                    |
| Halogen-free   | Yes                     | No                      |
| UL94/3,2mm   | Vo                      | V2                      |
| VW-1 (UL1581)  | ☆☆                      | ☆☆☆                     |
| Fire class<br>Fire Standard classification (FMVS SS 302)<br>braided sleeve | B                       | B                       |

\* Data from literature and / or from raw material supplier / FireRetard<sup>®</sup> on the basis of analysis / Variation between polymer and monofilament may possible

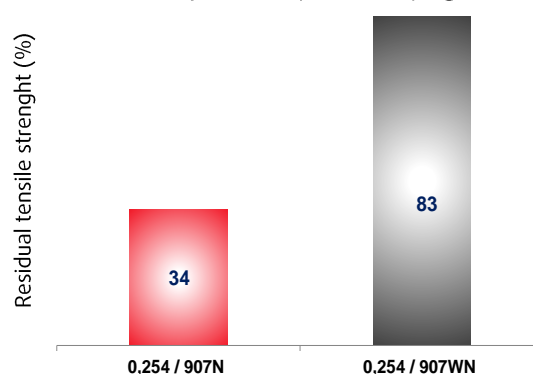


VW-1 fire test source:  
Techflex



UL94 fire test source:  
Clariant

Residual strength after exposure 7 days @158°C



Comparison of residual strength after dry heat treatment of the FireRetard<sup>®</sup> types 9\*\*N and 9\*\*WN

**Brand related products:** 9\*\*CF, CK, CP, CG, YF, YK, YP

This product information has been compiled to the best of our knowledge and with the greatest of care. We cannot, however, assume any liability for the accuracy, integrity or timeliness of its content. The technical parameters and the behaviour of the monofilament can vary depending on diameter and production technique.