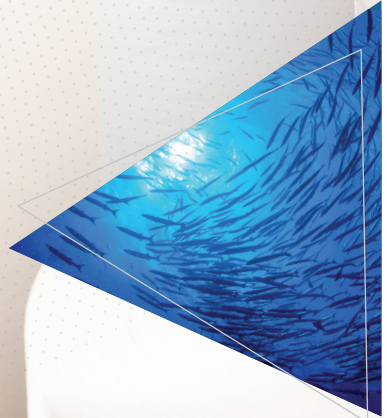


**KORTEKS**



**Bioloop**  
CICLO Inside



# BIODEGRADABLE SOLUTION TO COMPLEMENT CIRCULARITY



was developed to reduce the persistence of fugitive synthetic microfibers, which is caused by textiles. Thanks to its special formulation, it creates countless biodegradable spots where microbes can form functional entities that biodegrade the material throughout the matrix of the PET yarn. The microorganisms degrade and digest the PET yarn with the help of these spots.

The yarn is produced by adding a sustainable additive to the PET chips during the melt spinning process that imparts biodegradable properties. This sustainable additive can be blended with recycled or virgin PET and can be dope dyed. Since the additive does not affect the mechanical properties of the yarn, the biodegradable PET yarns can be used in all applications where virgin and recycled PET yarns are used.



## APPLICATIONS

- Apparel
- Automotive
- Upholstery
- Home textiles
- Denim
- Uniforms
- Sewing threads
- Zippers

## ADVANTAGES

- Built-in sustainability assurance to minimize fugitive synthetic textile pollution.
- Proven efficacy through reliable scientific data from third-party laboratory studies using internationally recognized ASTM test methods to measure the rate and extent of biodegradation in simulated environments.
- Recyclable
- Can be produced with REBORN® version.
- Non-toxic to marine life.
- Traceable with certificate and hangtag programs.
- REACH Compliant.
- Suitable for existing dyeing and finishing processes.
- Responsible marketing approach arising from strong supplier & manufacturer cooperation.
- ECO PASSPORT Certified by OEKO-TEX®.

The additive used to produce the yarn has been confirmed as safe for use in sustainable textiles with a certificate called OEKO-TEX ECO PASSPORT.









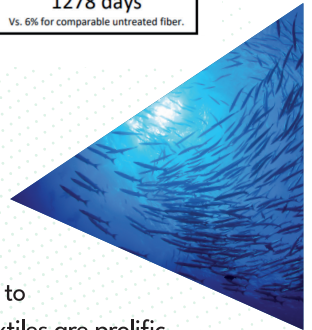
technology is activated only under conditions where natural biodegradation can occur. Fabrics do not disintegrate on a storage shelf, during wear, washing or hanging in the closet - just like fabrics made from natural fibers.

### TEST METHODS FOR BIODEGRADATION OF CICLO®

Fiber fragments from synthetic fabrics made with CICLO® technology do not remain in the environment forever, as is the case with other synthetic fabrics. While 100% plastic pollution prevention and fully closed loops are ideal goals, the CICLO® solution is based on current reality. Almost all textiles inevitably fail. The options for recovering the fragmented fibers are extremely limited. Once these tiny plastic microfibers end up as pollutants in the environment, they simply cannot be collected. They are prolific and are literally found everywhere: in the air, in sewage treatment plants, in the soil, in aquatic environments, in landfills and even in the guts of humans and wild animals.

MICROFIBRES		WWTP Sludge ASTM D5210	88% Biodegradation 847 days <small>Vs. 0% for comparable untreated fiber.</small>
		Soil ASTM D5988	88% Biodegradation 742 days <small>Vs. 0% for comparable untreated fiber.</small>
		Sea Water ASTM D6691	92% Biodegradation 844 days <small>Vs. 5% for comparable untreated fiber.</small>
FABRIC		Landfill ASTM D5511	91% Biodegradation 1278 days <small>Vs. 6% for comparable untreated fiber.</small>

- ✓ The data show the rate and extent of biodegradation of CicLO compared to non-CicLO polyester microfibers or fabrics in four environments where textiles are prolific pollutants.
- ✓ The remaining few percent is attributed to carbon converted to biomass.
- ✓ Negative control samples and samples of non-CicLO polyester show no significant biodegradation in the long-term tests.
- ✓ Third-party Microtox tests confirm that the biodegradation process is non-toxic to marine life.





\*Biodegradation studies are conducted by independent 3rd party laboratories using internationally recognized ASTM Test Methods, including D5210, D5988, D6691 and D5511. Referenced Test Methods use respirometry, a process that measures biogas and uses stoichiometry to calculate rate and extent of biodegradation. Respirometry studies give true indication that microorganisms are breaking down and digesting materials. Biodegradation percentages never reach 100% on respirometry study data because when microorganisms digest carbon, most is used for energy and respired but some is utilized to build their cell walls. The FTC requires us to state that the rate and extent of biodegradation presented does not mean that the product will continue to biodegrade. In other words, do not extrapolate data. Laboratory studies represent controlled conditions. As with all biodegradable materials, the actual rate and extent of biodegradation is dependent upon individual conditions in actual environments.

IMPORTANT CALIFORNIA NOTICE: California law prohibits the sale of plastic packaging and plastic products that are labeled with the terms "biodegradable," "degradable," or "decomposable," or any form of those terms, or that imply in any way that the item will break down, biodegrade or decompose in a landfill or other environment. These restrictions apply to all sales in or into the State of California, including such sales over the internet. Intrinsic Advanced Materials, LLC, has developed extensive guidelines for how to use the CiCLO® trademark and brand assets in ways that are compliant with FTC and California requirements, and how to explain the benefits of CiCLO® technology to consumers in an easy to understand and truthful way.

©2022 Intrinsic Advanced Materials, LLC. The CiCLO® logo is a registered trademark of Intrinsic Advanced Materials, LLC.

## **KORTEKS**

### **BURSA FACTORY**

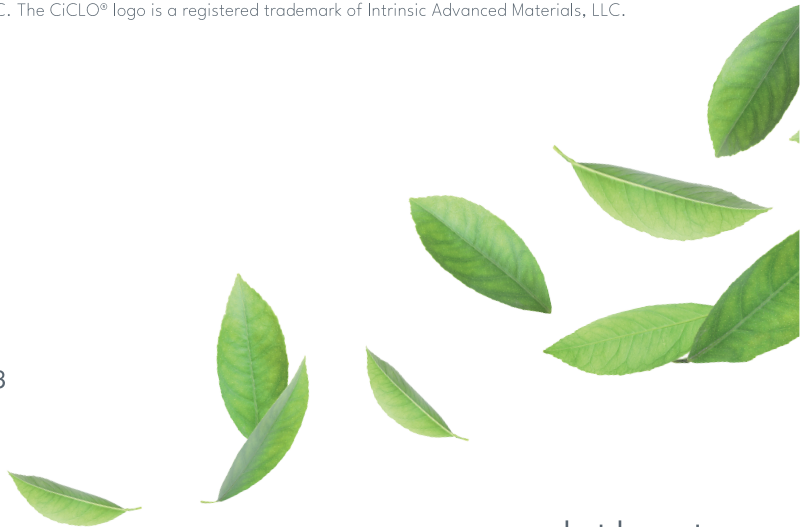
Fethiye OSB Mah. San Cad. No:3

16140 Bursa / TURKEY

Phone: +90 224 219 11 00

Fax: +90 224 242 65 09

[korteks.info@zorlu.com](mailto:korteks.info@zorlu.com)



[www.korteks.com.tr](http://www.korteks.com.tr)