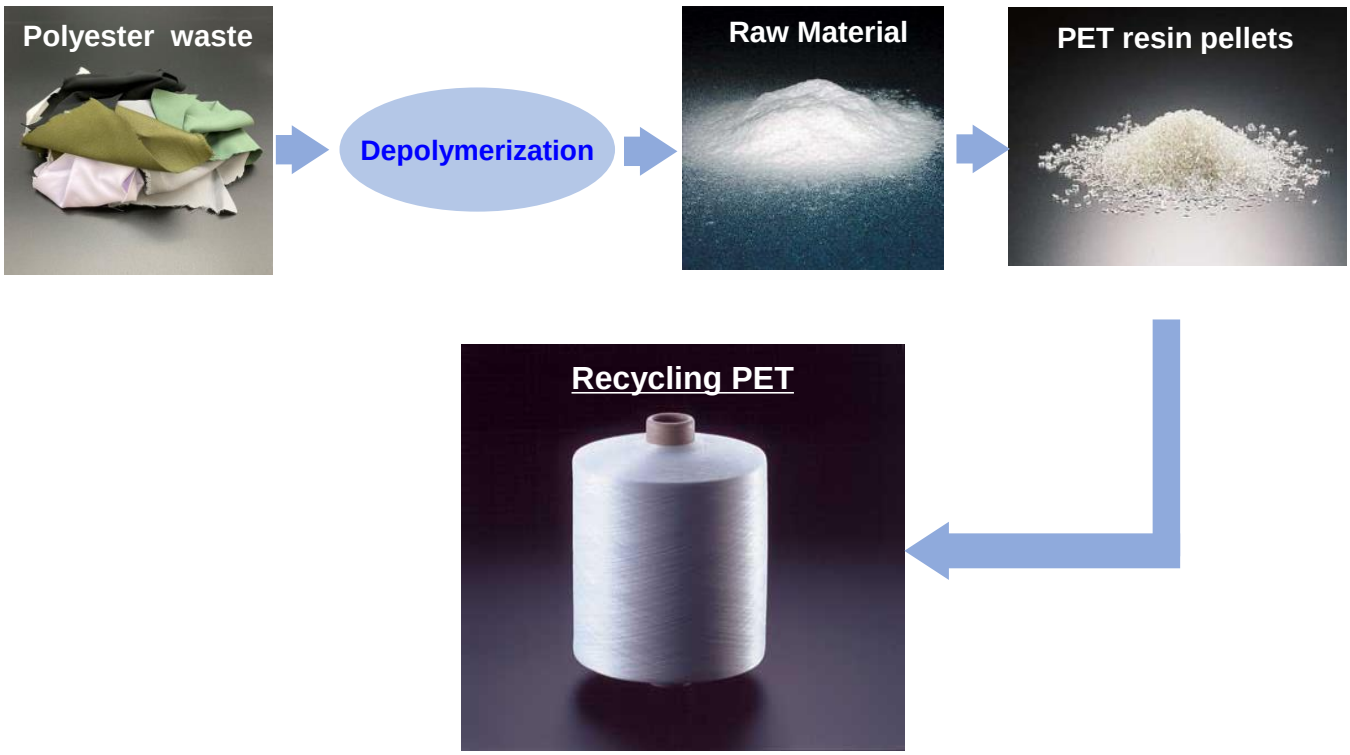
Chemical Recycling Polyester Fibers for Tires, Hoses and Belts

Chemical recycling process



The performance of our chemically recycled PET is equivalent to commercial fibers made from petroleum-derived resin without compromising quality.
Our technology enables to produce high performance polyester fiber used by pure recycled resin, made from polyester waste.

PET Cord Properties (Example)

Cord construction 1670dtex/2 (Z10 X S10 turn/inch)

Fiber Type	HMLS		HMLS (High Tenacity)	
Chemical Recycling / Petroleum-derived	Chemical Recycling	Petroleum-derived	Chemical Recycling	Petroleum-derived
Tenacity (N)	214	215	230	230
EAB (%)	16.3	16.4	13.1	13.1
Elongation at 66N (%)	4.0	4.0	4.0	4.0
Heat Schrinkage@180℃ (%)	5.6	5.7	6.6	6.6
2ply Peal Adhesion (N/inch)	149	146	148	147
Pull Adhesion (N)	214	216	224	223
Disk Fatigue (Retention %)	92	92	92	92

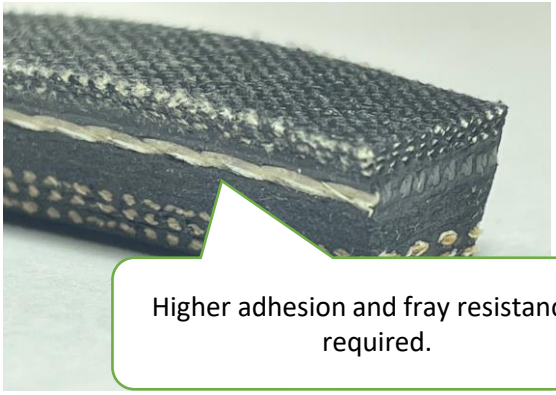
Recycling PET fiber has same properties as petroleum-derived one.

Solvent Alternative Water-based Adhesive Technology for Belts

Key requirements for raw edge belt cable cords

1. **Higher adhesion** for high performance rubbers, like EPDM.

2. **Fray resistance** of cable cords on the bare lateral surface of the belt is needed.



Advantages

Solvent based adhesives are widely used to promote adhesion between the cable cords of raw edge belts. As an alternative to less environmentally-friendly solvent-based adhesives that may cause work safety issues at cord production factories, our company has developed a water based adhesive technology.

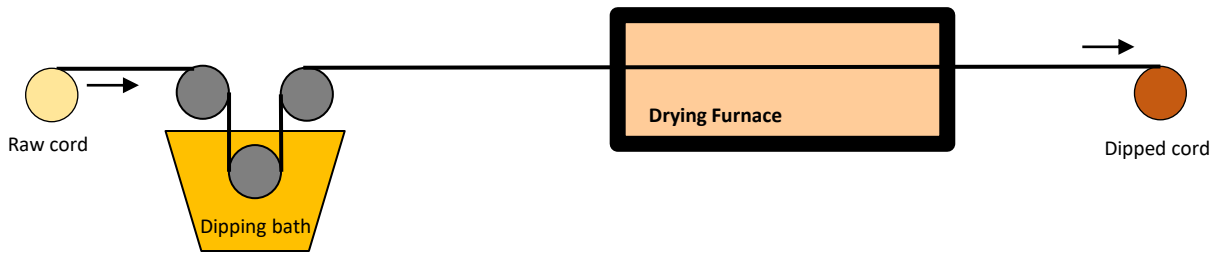
Process overview of adhesive treatment

Adhesive application

Water based (Solvent*-free) adhesive technology
*Toluene, MEK etc.

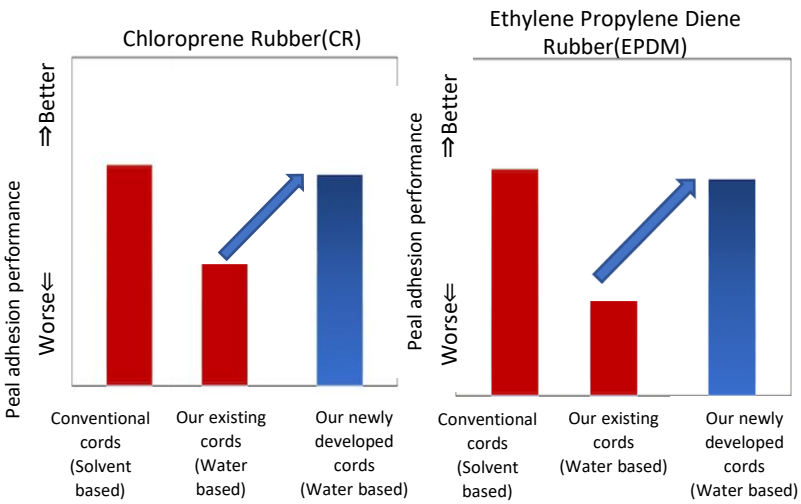
Drying Furnace

Equipment required to apply and capture solvent not required.



Adhesion

Options for promoting adhesion to high performance rubbers.



Fray resistance

Our cord can enhance fray resistance through even penetration and distribution of adhesive