RECYCLING OF WASTE PET BOTTLES INTO RE-GENERATED POLYESTER STAPLE FIBER

WASTE PET BOTTLES

CLEAN PET FLAKES

Regenerated PSF
PRODUCTION PROCESS FLOW

WASTE PET BOTTLES

SORTING

SHREDDING TO FLAKES

HOT WASHING

VACUUM DRYING

EXRUSION

SPINNING - FILAMENTS

DRAWING OF TOWS

ANNEALING

CRIMPING & CUTTING FIBER TO LENGTH

R – PSF

BAILING & DESPATCH

LABELS, CAPS & RINGS
(a) Major use of R-PSF is in the **needle-punched non-woven fabric** industry. Solid non-siliconized R-PSF in white, black and other colours is used. Main application is in automotive segment (carpet, upholstery, trunk liner, roof insulation etc.), carpet segment (exhibition, floor, wall carpets & backing), filter segment and geo-textiles.

(b) **Fiber-fill and wadding** industry. End applications include stuffing for jackets, cushions, pillows, mattresses, toys, sleeping bags, quilts, fur fabrics etc.

(c) The other major use of R-PSF is in the **Yarn spinning** industry. Spun yarn is used in textiles, bedspreads, pillow covers, sports wear, athletic shoes etc.
BUSINESS STRENGTHS

**Point 1:** Proliferation in the use of PET bottle on the back of 7 – 8 % CAGR growth coupled with relatively low scale of recycling to yield abundant feed stocks to be recycled.

**Point 2:** Indian Man Made Fiber (MMF) to Natural fiber ratio is 41 : 59. This will align to global ratio of 63 : 37 consumption. Hence, there is a huge scope of growth in consumption of polyester fiber in India.

**Point 3:** Raw material price for recycled PSF is insulated unlike virgin PSF which is linked to crude oil / gas prices (PTA and MEG) thereby ensuring stable margins with possibility of scale up of business.

**Point 4:** Changing life styles and cost effectiveness is leading innovative applications of MMF. This has clearly helped to expand its market share of polyester. Such trend is likely to continue in the future. Some of the notable innovations are Winter clothing, Disposables, Non-woven Fabrics, Technical textiles etc.

**Point 5:** Govt. support in terms of Excise Duty exemption for recycled PSF.

**Point 6:** Recycling leads to saving of oil resources, reduces carbon footprint and hence is environmental friendly. In future, government may extend benefits / financial incentives to such companies.
We can provide Technology / Know-how and related technical services for the manufacture of Regenerated Polyester Staple Fiber from waste PET Bottles. We provide technical consultancy services for Project Implementation such as – Selection & Sourcing of Equipment, Customization of equipment specifications, advisory services for Installation & Commissioning, Compounding & Processing, Quality Control & Testing, Selection of technical manpower, Marketing advice etc.

As a first step we can prepare a Techno - Economic Project Report for setting-up manufacturing plant. Such a report will clarify all points associated with the project, approach financial institutions for loan purpose, approach Govt. departments for statutory clearances etc.

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Technical Consultancy Services for Project Implementation

2. Provide assistance to client for the selection and sourcing of machinery & equipment. Detailed discussion with machinery suppliers for modifying & finalizing equipment specifications.
3. Prepare Plant Layout Drawing and Factory Building Architectural Drawing
4. Provide assistance for recruiting of Technical Manpower
5. Provide advisory services for the Installation, Commissioning & Trial Run of machinery by machinery suppliers.
6. Provide Compounding & Processing know-how
7. Provide assistance for the selection & sourcing of Additives & Chemicals
8. Provide know-how about Quality Control & Testing systems and facilities
9. Provide information about market scenario & intelligence
10. Provide target market information’s and marketing advice