# Technical Data Sheet

| Issue Date : 01.12.2013 | **ESPET HR-01**<br>**(PET for Packaging 20/25 liters Water, Suitable for Improved hot wash)** | Revision No : 00 |
|---|---|---|

## RECOMMENDED APPLICATION.

- ✓ Bulk water returnable and reusable Jars of capacity 20 / 25 liters (4 / 5 gallons).
- ✓ Suitable for both single stage and two stage ISBM machines.

## PRODUCT FEATURES

- ✓ **ESPET HR-01** is a Co-Polyester supplied in crystallized form for convenience of drying and processing.
- ✓ Cost effective substitute for poly carbonate (PC) Jars.
- ✓ It offers high clarity, thermal stability, mechanical strength and improved scratch & scuff properties.
- ✓ Jars are washable at 70 -75 °C with appropriate detergent combination, within acceptable shrinkage level.
- ✓ Can be used for > 30 cycles after hot wash.
- ✓ Offers easy processibility in injection and stretch blow molding machines
- ✓ Can be offered with 33% of Bio MEG sourced from Sugar cane molasses
- ✓ Recyclable under SPI code number 1

## SPECIFICATION

| S.NO. | PARAMETER | UNIT | SPECIFICATION | TEST METHOD |
|---|---|---|---|---|
| 1 | Appearance | -- | Crystalline | Visual Method |
| 2 | Intrinsic Viscosity | dl / gm | 0.85 ± 0.02 | ESTER CQI 051 |
| 3 | Carboxylic End group | meq / Kg | Max 25 | ESTER CQI 052 |
| 4 | Color Value (CIE Scale) | | | |
| | L* Value | % | Min 72.0 | ESTER CQI 056 |
| | b* Value | -- | 0 ± 2.0 | ESTER CQI 056 |
| 5 | Melting temperature | ℃ | 245 ± 3 | ESTER CQI 259 |
| 6 | Glass Transition | ℃ | 82 ± 1 | ESTER CQI 259 |
| 7 | Chips/gm | No. | 65 ± 5 | ESTER CQI 054 |
| 8 | Bulk Density | Kg/m$^3$ | 850 ± 50 | ESTER CQI 164 |
| 9 | Polymer Fines | wt % | Max. 0.01 | ESTER CQI 057 |
| 10 | Moisture (when packed) | wt % | ≤ 0.20 | ESTER CQI 165 |

## PROCESSING GUIDELINES

### ✓ DRYING CONDITION

Granules must be thoroughly dried before processing to limit the occurrence of hydrolytic degradation.

| | |
|---|---|
| Drying Temperature | 160 ± 5 ° C |
| Drying Time | 6 – 7 hours |
| Dew Point of circulating dry air | - 40° C |
| Residual Moisture | ≤ 30 ppm |

### ✓ PROCESS TEMPERATURE## (Injection Stretch Blow Molding)

| | |
|---|---|
| Melt Temperature in extruder | 280 ± 5 °C |
| Preform reheat temperature before Blowing | 100 ± 5 °C |

##The values quoted above are typical numbers for benchmarking. Individual machine parameters should be determined on a case by case depending on the design of the product(s).

## PACKING

Resin can be supplied in 1000 kg PP Jumbo bags with LDPE liner at 20 bags per 20 ft FCL container as required

## CONTACT ADDRESS


| | |
|---|---|
| **Regd Office & Works : ESTER INDUSTRIES**<br>**P.O : Sohan Nagar, Khatima – 262308,**<br>**Distt : Udhamsingh Nagar Uttarakhand, India** | **Head Office: ESTER INDUSTRIES**<br>**Block –A, Plot No. 11 Info city – I,**<br>**Sector 33 & 34 State : Gurgaon -122001, Haryana, INDIA** |


**All Products are under continual improvement. Rights are reserved to modify products /process without prior notice subject to performance criteria as per Technical data sheet**