BIOMODIFICATION OF PES

Oekotech | Medtech | Clothtech

NEW GENERATION OF MULTIFUNCTIONAL FINISHING

ENZYMATIC CLEANER PRODUCTION

SUPERIOR PET USERS PROPERTIES – COMFORT

DURABLE FUNCTIONALIZATION OF PES CONTAINING TEXTILES

TEXAZYM PES

PET polymer structure modification mechanism:

R – COOR´ enzyme R-COOH + R´-OH

New reactive groups (-OH, -COOH) implemented into the PET polymer by mild, low temperature (30-50°C) and near to neutral pH (4-4,5 – acetic acid), jig/jet 30-40 min. condition

Selective pre-activation step to the next durable functional treatment of PET (FR,AMB...)

NO LOSS OF FABRIC WEIGHT – CONTRARY TO HARSH ALKALI DEWEIGHTING

(0,1% w.o.f. against > 20%)

SELECTIVE TO PET – SAFE FOR BLENDS

- HYDROPHILICITY IMPROVEMENT
- ANTISTATIC PROPERTIES
- ELIMINATION OF LINTING (CR) AND PES MICROFIBRE POLUTANTS

Fig 1:
Hydrophilicity (rising height) improvement and antistatic properties (surface resistivity by 65% RH)
Durability in repeated laundry

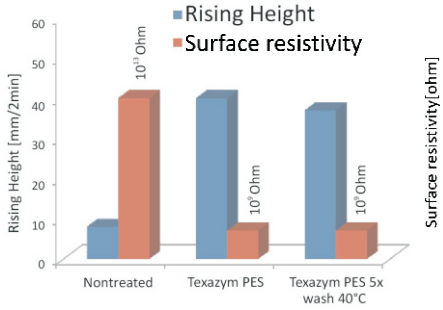


Fig 2:
Enzymatic PET structure modification –OH groups / Re dyeing
Wash fastness (40°C): 4-5K/4-5/4/-5

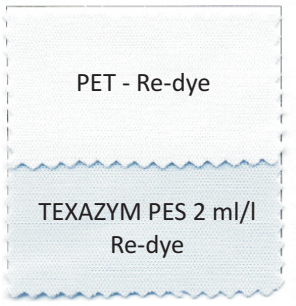


Fig 3:
Hydrophilicity enhancement

Fig 4:
Linting measurement

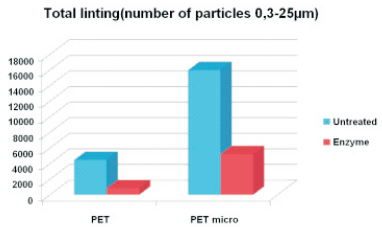
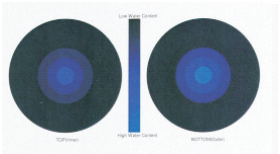
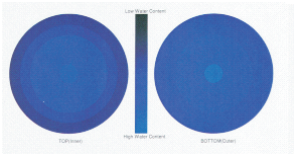


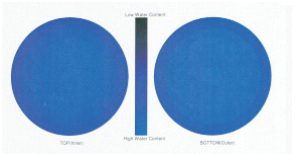
Fig 5:
3D moisture spread in the modified PES fabric (figures = moisture spread mm/sec)
(Blank PES thermofix, TEXAZYM PES, Alkaline hydrolysis); **Measurement – MMT (SDL)**



0,3426 Blank 0,767



2,2899 TEXAZYM PES 1,9567



2,4357 Alkaline hydrolysis 2,5148

ENZYMATIC ELIMINATION OF AIR POLLUTION BY HT PET THERMOFIXATION AND RECYCLING

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