

# **GARMENT FINISHING - A COMING TOOL OF FLEXIBILITY**

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**INOTEX**

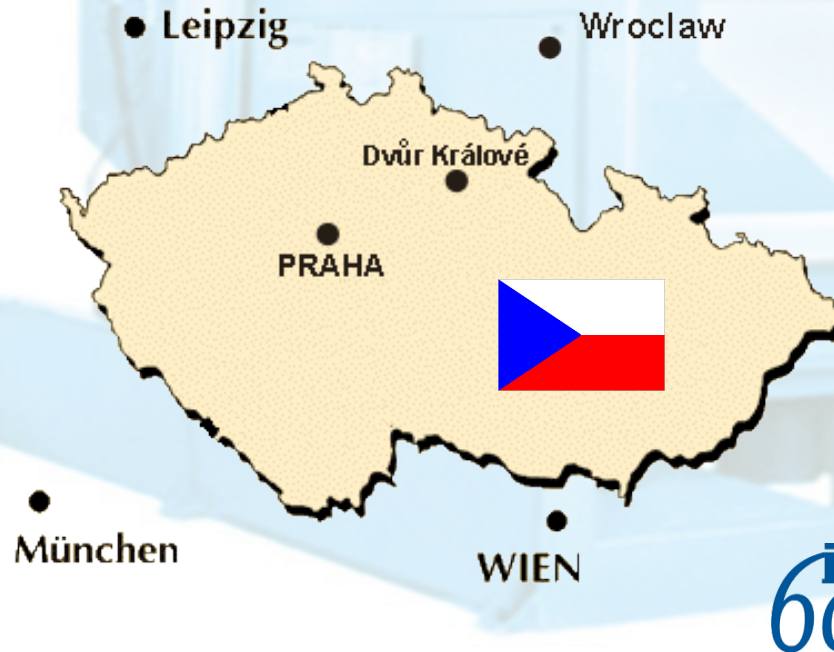
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**[www.inotex.cz](http://www.inotex.cz)**

# FOLLOW US TO SEARCH NEW WAYS FROM IDEA TO PRODUCTS

## Key strategy of INOTEX as a small research, innovation and TT company

„SUPPORT OF IMPLEMENTATION OF CUSTOMISED R&D DEVELOPMENT RESULTS INTO THE PRACTICE OF TEXTILE COMPANIES BY USE OF OWN PILOT PRODUCTION CAPACITIES. SPEED-UP OF IMPLEMENTATION AND DISSEMINATION PROCEDURE BY USE OF “MATERIALIZED” RESULTS”



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1949-2009  
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# **FOLLOW US TO SEARCH NEW WAYS FROM IDEA TO PRODUCTS**

- **Textile wet processing and products sale**
  - **Dyes and full colourmatching services**
  - **Textile auxiliary agents**
    - **New products development - Production and service - Development and introduction of new eco-friendly technologies into SME's**
  - **Small lot finishing/coating, garment processing**
- **Special machinery equipment and devices**
- **Accredited textile quality testing and analytical laboratory – CSN EN ISO 17025**
  - **Testing of (multi) functional textiles**
  - **Specialized services for ecoauditing and ecocertification**
  - **Help with gaining ecolabels EC-ECOLABEL2002/371/EC**
  - **BAT/IPPC transfer and implementation consultancy**



# **FOLLOW US TO SEARCH NEW WAYS FROM IDEA TO PRODUCTS**

## **(MULTI) FUNCTIONAL TEXTILES – FLEXIBLE TECHNOLOGIES - – CLEANER PRODUCTION**

SPECIALITY CHEMICALS AND BIOTECHNOLOGIES **FROM US**  
NEW EFFECTIVE TOOLS SOLUTION AND PRODUCT INNOVATIONS **FOR YOU**

**FLAME RETARDANCY – WATER AND SOIL PROTECTION – UV ABSORBERS - COMFORT**

**EASY CARE – COATED BARRIERS – FUNCTIONAL MEDICAL & HEALTH SERVICE TEXTILES**

**ENCAPSULATED SLOW RELEASE – NANOMATERIALS – BIOMATERIALS AND ENZYMES**

ENVIRONMENTAL CLEAN TEXTILE BIOTECH AND NANOTECH

INNOVATION FROM THE CZECH FINISHING BIRTHPLACE

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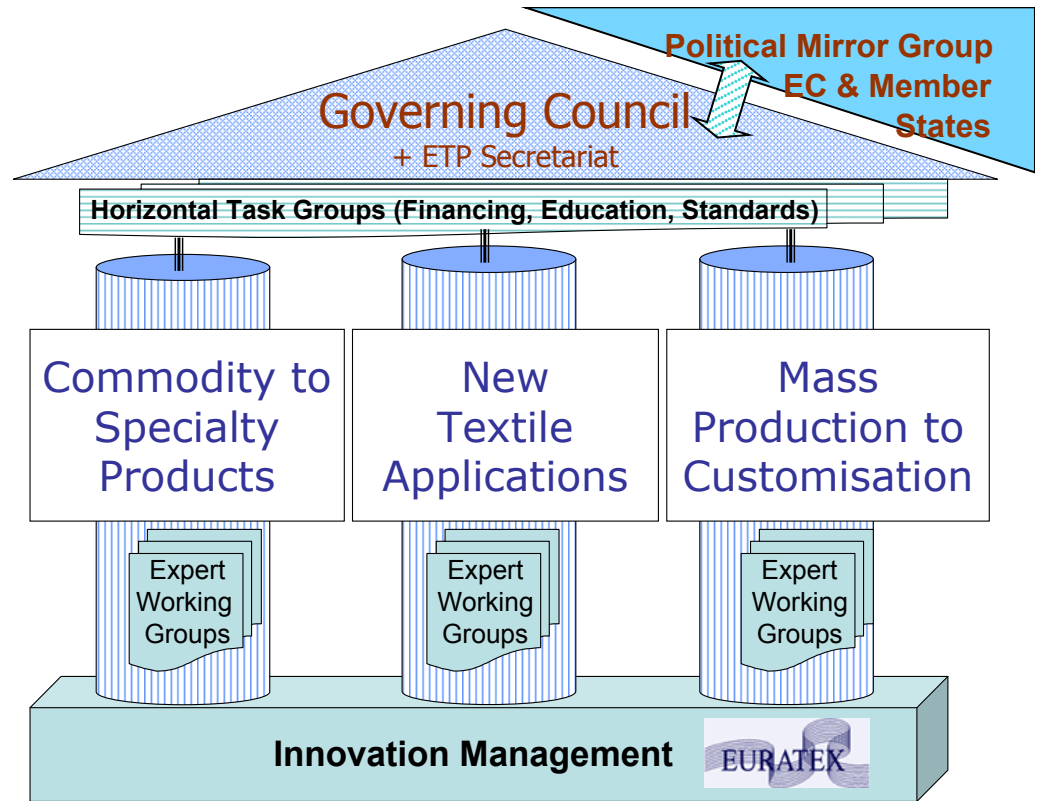


**22.IFATCC congress Stresa, May 5-7, 2010**

STREX IAC TC 2010



**FUNCTIONALITY**  
**FLEXIBILITY**  
**EFFECTIVENESS**  
**ECO-EFFICIENCY**



**FORCEFUL ESSENTIAL CORNERSTONES OF TEXTILE SECTOR  
SUSTAINABILITY**

**FROM MASS PRODUCTION  
TO THE CUSTOMISED PRODUCTION AND SERVICES**

**HIGH ADDED VALUE – FASHION  
FUNCTIONALITY**

**FLEXIBILITY - SHORT LEAD TIME / MINIMUM STOCK  
- UNIVERSALITY BY SINGULARITY**

**EFFECTIVENESS – REPRODUCIBILITY OF BATCHES  
LONGER SERVICE LIFE OF  
(ADDED VALUE – FUNCTIONAL)  
PRODUCTS**

**INTEGRITY OF PRODUCTION – RETAIL – SERVICES**



## WHY GARMENT FINISHING ?

(DESIGNATED THE 3TH POSITION WITHIN MOST REQUIRED FUTURE TECHNOLOGIES WITHIN THE INDUSTRY SURVEY FOR THE EURATEX ETP)

- ☺ • **HIGH LEVEL OF EXISTING MACHINERY**  
VARIABILITY OF BATCH-SIZE
- ☺ • **PROMPT REPLY TO FOLLOW MARKET TRENDS**  
(MINIMUM STOCK – LESS LOSS BY CLEARANCE SALES)
- ☺ • **LED BY FUNCTIONALITIES** – (PROFESSIONAL, PPE) MARKET  
NEEDS AN INTEGRAL SERVICE CARE  
TO INCREASE EFFECTIVENESS  
TO CARE ABOUT (PROTECTIVE/COMFORT) PARAMETERS  
TO BRING ADDITIONAL EFFECTS (FUNCTIONS)  
ON DEMAND
- ☹ • **TO HOLD FINAL DECISION MAKING** ABOUT MARKET POSITION IN EU  
(USING OUTSOURCED GARMENTS)

**GARMENT FINISHING  
AS AN INTEGRAL TOOL OF  
FUNCTIONAL PROTECTIVE CLOTHING**

**(PPE – LEAD MARKET)**

**PRODUCTION AND MAINTENANCE**

**(DAILY USED BY 140 MILLION WORKERS IN EU,  
REPRESENTING A TURNOVER OF EUR 10 BILLION)**

- **FUNCTIONALIZATION OF (NEW) READY MADE CLOTHING**  
FR – ANTIBACTERIAL – UV PROTECTIVE – REPELLENT (WR.OR,SR)
- **RE-ACTIVATION OF FUNCTIONAL (PROTECTIVE–PROFESSIONAL)PRODUCTS**  
HOSPITAL CARE, CLEAN ROOM, PPE UNDERWEAR
- **TRACK TO NEW FUNCTIONALITY**  
ENZYMATIC FUNCTIONALIZATION OF PES

**NEW INOTEX SOLUTIONS AND PRODUCTS (TAA)**



# GARMENT FR TREATMENT

**inoTEX®**

## **DURABLE:**

**TEXAFLAM GPF – WASH PERMANENT 100xBOIL**

**100%CO, CO/PES x CO/PA BLENDS (25% SYNTH MAX.)**

**PASS EN-ISO 15025 non-afterglow**

**SUPPORTED BY KATALYZATOR FRE**

**(LESS TENSILE/TEAR STRENGTH LOSS)**

**MINIMUM FORALDEHYDE (LESS THAN 70ppm)**

**COMPATIBLE WITH WR / OR**



**LR 1:3 / 7 min. boosted by wetting/penetrating agent, hydroextraction of bath – residual wet pick up 80%**

**alkaline wash-out of unreacted system, neutralisation**

**avoids risk of smell and tear-strength loss**

**dry/HT cure 150°C/6-8 min. – hangers chamber**

**130°C (30 min.), 140°C (15 min.) – tumbler**

**Examples of use: protective garments steelworks, welders (twill co, co/PES)**

**protective 100% co underwear (T.P.C.A. automotive)**

## **SEMI-PERMANENT FR – LAUNDRY APPLICATION**

**TEXAFLAM BS**

**CELLULOSES, SYNTHETICS (PET, PA, PAN) AND BLENDS**

**CLEAN ROOM (CR) GARMENT (PES, PES-MICRO)**

**NO SIGNIFICANT LOSS OF M-PHYS PROPERTIES**

**REDUCTION OF LINTING (ISO 9073-10)**

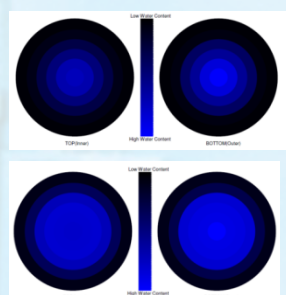
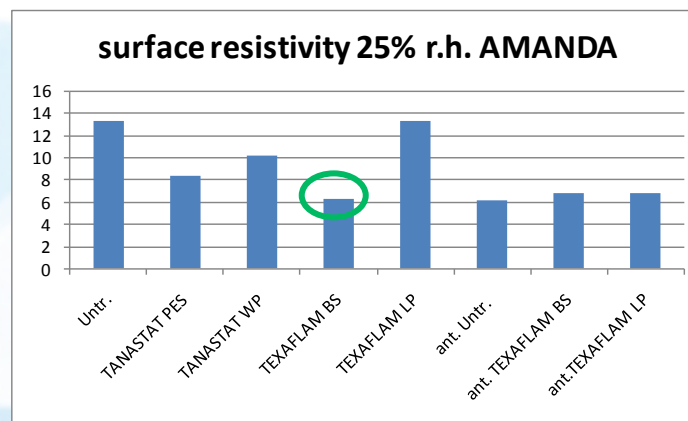
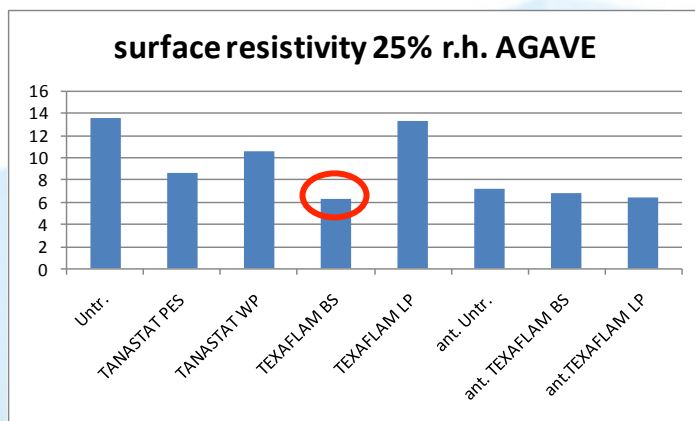
**SPECIAL CONSTRUCTIONS WITH ELECTRO-CONDUCTIVE  
SCRIM (PA/C)**

**IMPROVEMENT OF ANTISTATIC PROPERTIES +  
PHYSIOLOGY COMFORT (MMT)**



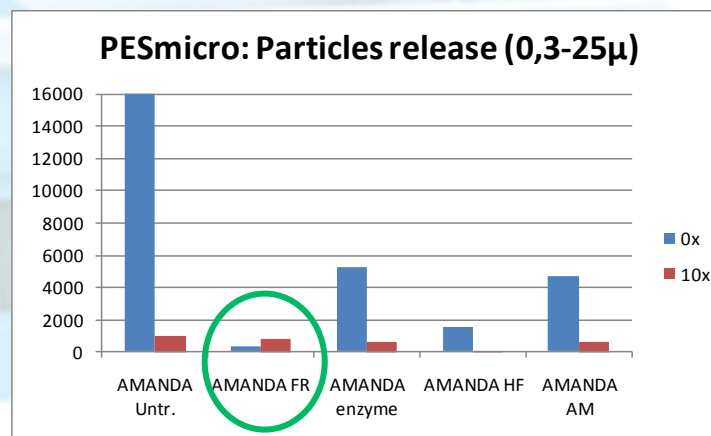
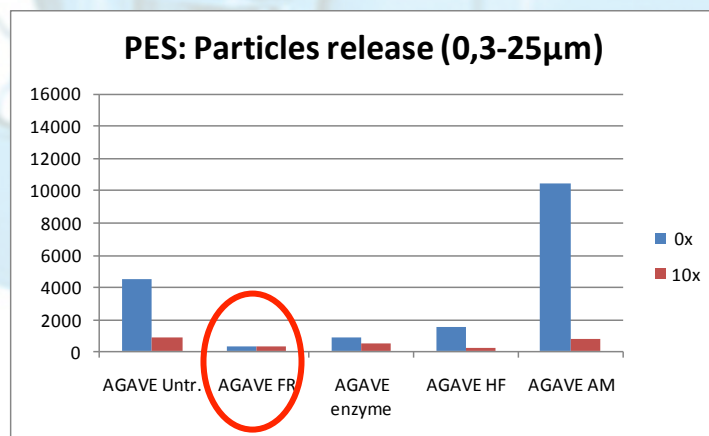
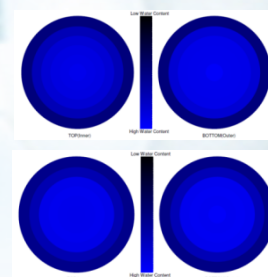


# CR GARMENT FINISHING (FR, ANTISTAT, LINTING)



*Untr.*

*TEXAFLAM BS*



# GARMENT FINISHING

inoTEX®

## NEW BIOTECH AT YOUR SERVICE MODIFICATION OF PET BY ENZYME

TEXAZYM PES



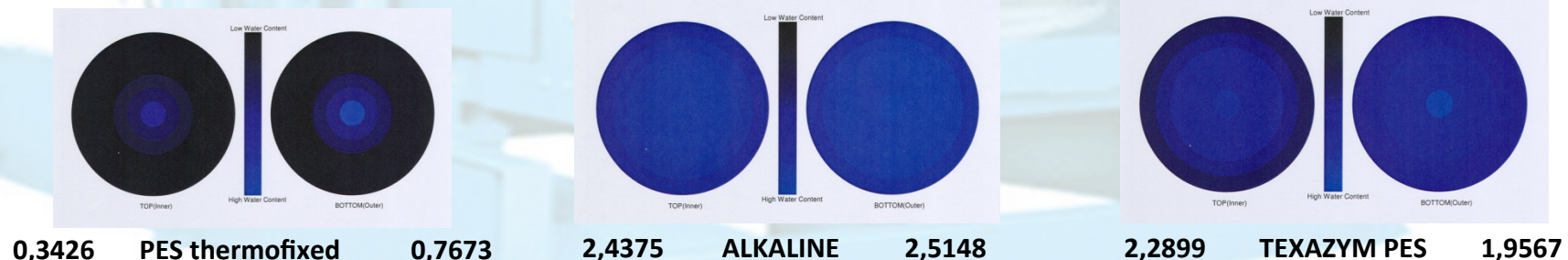
HYDROPHILICITY ENHANCEMENT x ANTISTATIC PROPERTIES

NO INFLUENCE ON FABRIC CONSTRUCTION (BARRIER PROPERTIES)

NO LOSS OF WEIGHT (IN THE CONTRARY TO „ALKALINE DEWEIGHTING“)

DURABLE (POLYMER MODIFICATION – NO SURFACE FILM OF LUBRICANT)

CR FRIENDLY (NO RISK OF SURFACES CONTAMINATION)



MMT – Overall Moisture Management Index



# UV PROTECTIVE GARMENT

## SOLTEX 1052 – UPF ENHANCEMENT

POTENTIAL RISK OF SKIN DISEASES (HUMAN IMMUNE SYSTEM)  
LONG LASTING IMPACT OF UV-B EXPOSURE

OZONE-LAYER MALFUNCTION  
IMPACT OF MODERN TECHNOLOGY (ELECTRIC-ARC WELDING)

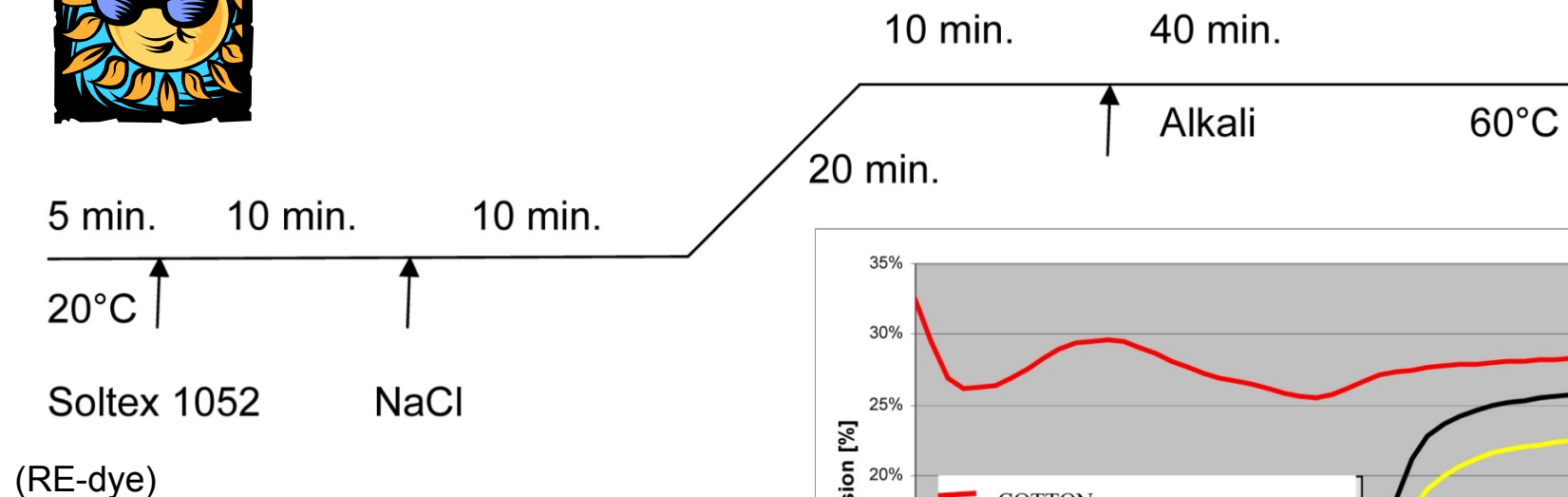
NEW FIBRE REACTIVE DURABLE SYSTEM (CELLULOSE)  
DOSAGE 1-4% o.w.f., alkali bath 1:10 – 1:20  
common processing conditions of reactive dyeing (possibility to combine)

NO INFLUENCE ON DURABLE FR  
NO CHANGE OF BREATHABILITY (MMT)

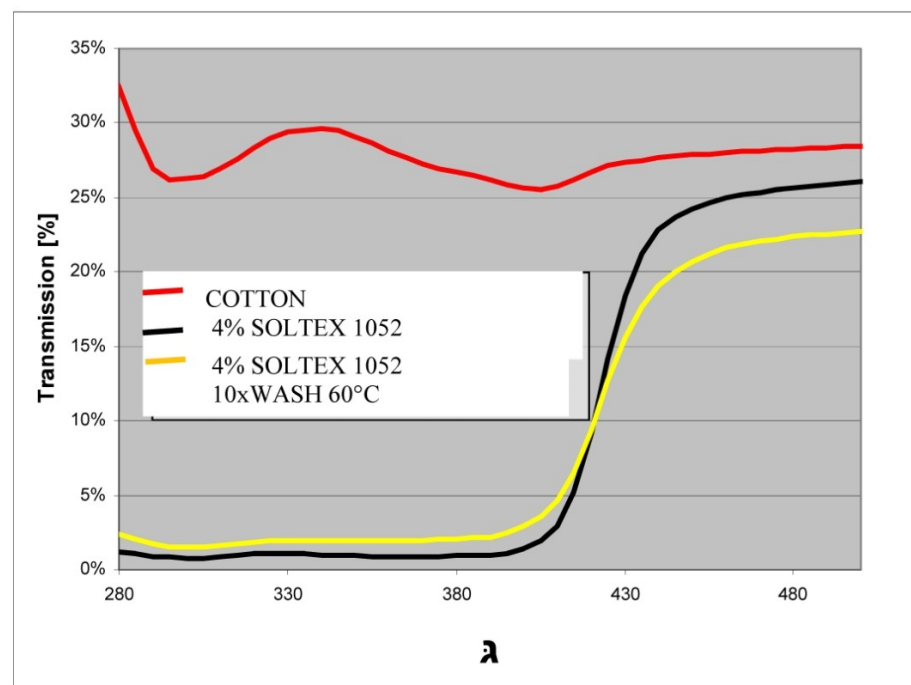
EXAMPLES OF USE: POSTMANS, FORESTERS SHIRTS (CO, CO/PES)  
CHILDREN'S



# UV PROTECTIVE GARMENT



UPF measured in accordance  
with EN 13758-1:2002  
AS/NZS 4399/1996







# ANTIBACTERIAL TREATMENT

HOSPITAL GARMENTS, BED-LINEN etc.



**„RE-FRESHMENT“ OF ANTIBACTERIAL (BIOSTAT) PROPERTIES  
BY INDUSTRIAL LAUNDRY**

**HEAVY LOADED, DAILY USED, RISK OF MASSIVE CONTAMINATION, NEED OF COMFORT  
LOW-COST PRESSURE**

**FUNCTIONALITY – DURABILITY – COST PER CYCLE OF USE**

**PES/CO BLENDS 50/50 REPLACING 100% CO**

M-PHYS RESISTENCE MORE AS 2,5x HIGHER (250 cycles and more)

**INTENSIVE LAUNDRY**

PES/CO – LOWERED TEMPERATURE 60-70°C (CHEMO-THERMO)

**LIMITED FUNCTIONALITY UNDER HARSH CONDITIONS (70-100 cycles)  
TO UTILIZE PROLONGED DURABILITY OF FABRIC – CONSTRUCTION**

**ULTRA FRESH NM-V2 (TRA) – 4% w.o.f. LR 1:10, 30 min./20°C, pH 5,2-5,6**

RESULTS IN ACCORDANCE WITH AATC 147-2004 (confirmed by ISO 20743:2007)

(incl. Staph.aureus MRSA)

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## CONCLUSIONS:

**GARMENT FINISHING** – NEW DIMENSION OF ADDED VALUE TEXTILES

**PRODUCTION – MAINTENANCE CHAIN**

**CUSTOMISED FUNCTIONS** (AND COLOURS) CAN BE OBTAINED

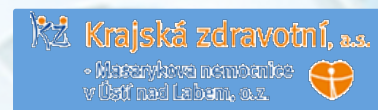
- FLEXIBLE – SHORT LEAD TIME
- EXISTING TECHNOLOGY COMMONLY USED DURING THE MAINTENANCE SERVICE
- EXISTING NEW FUNCTIONAL CHEMICALS AND BIOCHEMICALS

**CLEANER PRODUCTION – ENVIRONMENT FRIENDLY (LESS WASTE) SYSTEMS**

**HAND BY HAND WITH LAUNDRY SERVICES ATTRACTIVITY OF  
HIGH ADDED VALUE CUSTOMISED PRODUCTS  
CAN BE UPGRADED**

## ACKNOWLEDGEMENT:

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**E! 3778 MANGO**



**FT-TA4/134 ZDRATEX**

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