EOC Group
HQ Belgium - Oudenaarde

Flame retardant hotmelt finish for mattress ticking novel product range at EOC
Overview

- The 'EOC Group'
- Product ranges
- What are thermoplastic hotmelts and what’s their main function
- Important requirements of mattress ticking coating
- Multiple step process versus one step process
- Test-results
- Key benefits - summary
Who is EOC Group

An international partner... with the flexibility of a family business.

EOC Group is a medium-sized family company with a worldwide experience.

Initially founded in 1948 in The Netherlands.

Headquarters in Oudenaarde / Belgium.

<table>
<thead>
<tr>
<th>Turnover</th>
<th>300 million €</th>
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</thead>
<tbody>
<tr>
<td>Production</td>
<td>380.000 MT Plus</td>
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<tr>
<td>Divisions</td>
<td>7</td>
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<tr>
<td>Production sites</td>
<td>13</td>
</tr>
<tr>
<td>Number of employees</td>
<td>Worldwide: 700</td>
</tr>
<tr>
<td></td>
<td>Belgian sites: 350</td>
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Business units

- Compounds
- Latex
- Polyurethanes
- Emulsions
- Adhesives
- Surfactants
- Technical Textile Chemicals
## EOC Worldwide

<table>
<thead>
<tr>
<th>Product/Plant</th>
<th>Compounds</th>
<th>Latices</th>
<th>Emulsions</th>
<th>Adhesives</th>
<th>Hotmelts</th>
<th>Surfactants</th>
<th>PUD’s</th>
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</tbody>
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Wim Duyvejonck - 2BEFUNTEX - ITMA Milan
What are thermoplastic hotmelts?

- Polymers such as PP, PE, PA, EVA, PET...
- Low viscosity melts
- Melting between 50°C and 150°C
- Rapidly set and easily hardening upon cooling
- Easy processability
- Solvent-free

Main functions

- To bond various layers together (lamination-adhesion)
- Providing good seam slippage properties
Requirements for mattress ticking

- Flame retardancy: EN597-1 & EN597-2
- Seam slippage: ISO 13936-2
- Soft handle
- Non yellowing
- Non corrosive
- Flexible
- Textile feel
- ....
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Old school

Classical flame retardant grades are water-based solutions based on inorganic or organic salts, applied by padding or spraying or as foam. Forced convection drying is needed.

FOULARD OR FR FOAM → OVEN → UNFUNCTIONALIZED HOTMELT OR LATEX
EOC novel system

EOC EUROTICK HM grades
polymer based with flame retardant additives
applied by slot-die or rolls – eventually followed by lamination
EUROTICK application
EOC novel system: Key Benefits

All functionalities for Mattress ticking finish in ONE process step

- Non corrosive
- Tack free
- Soft hand
- Flame retardant
- Non yellowing
- Odourless
- Good seam-slippage
- Flexibility
- Bonding strength upon cooling
- X and borate-free flame-retardant
## EUROTICK HOT MELT GRADES

<table>
<thead>
<tr>
<th></th>
<th>CELLULOSICS</th>
<th>BLENDS</th>
<th>SYNTHETICS</th>
<th>ADD-ON</th>
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<tr>
<td>FRM 14 HM</td>
<td></td>
<td></td>
<td>√</td>
<td>10-25</td>
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<tr>
<td>FRM 32 HM</td>
<td>√</td>
<td></td>
<td></td>
<td>15-40</td>
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<tr>
<td>FRM 40 HM</td>
<td></td>
<td></td>
<td>√</td>
<td>20-40</td>
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</tbody>
</table>

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### EN 597-1 and EN 597-2

#### FRM14 HM
For synthetics, applied on 55%PES, 45%PP fabric

<table>
<thead>
<tr>
<th>ADD-ON</th>
<th>597-1</th>
<th>597-2 flat</th>
<th>597-2 edge</th>
<th>597-2 tuft</th>
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<tbody>
<tr>
<td>17,5</td>
<td>PASS</td>
<td>0-0-0</td>
<td>0-0</td>
<td>0-0</td>
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<tr>
<td>19</td>
<td>PASS</td>
<td>0-0-4</td>
<td>0-0</td>
<td>0-0</td>
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<tr>
<td>30,2</td>
<td>PASS</td>
<td>0-0-4</td>
<td>0-0</td>
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</table>

#### FRM32 HM
For cellulosics, applied on 67%VCS, 33%co fabric

<table>
<thead>
<tr>
<th>ADD-ON</th>
<th>597-1</th>
<th>597-2 flat</th>
<th>597-2 edge</th>
<th>597-2 tuft</th>
</tr>
</thead>
<tbody>
<tr>
<td>28,5</td>
<td>PASS</td>
<td>28-23-36</td>
<td>36- F</td>
<td>40- F</td>
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<tr>
<td>39,2</td>
<td>PASS</td>
<td>30-30-25</td>
<td>22-26</td>
<td>0-20</td>
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</tbody>
</table>

#### FRM40 HM
For blends, applied on 62%co, 38%PES fabric

<table>
<thead>
<tr>
<th>ADD-ON</th>
<th>597-1</th>
<th>597-2 flat</th>
<th>597-2 edge</th>
<th>597-2 tuft</th>
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<tbody>
<tr>
<td>18</td>
<td>PASS</td>
<td>63-41-41</td>
<td>61-38</td>
<td>63-14</td>
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<tr>
<td>31,1</td>
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<td>22-22-30</td>
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<td>39,3</td>
<td>PASS</td>
<td>26-28-55</td>
<td>76-100</td>
<td>73-40</td>
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</table>
Match test 597-2
EN13936-2 – Seam slippage

![Graph showing seam slippage vs add-on (gsm) for different FRM types: FRM 40, FRM 32, FRM 14.](image)

Wim Duyvejonck - 2BEFUNTEX - ITMA Milan
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EUROTICK hotmelt grades

- Corrosion free
- No hygroscopic problems
- Good hands
- Textile feel

- Easy application
  - Lamination
  - Easy processing
  - High Processingspeed
  - less process steps
  - Dry proces – no water evaporation
  - less emission
  - Less energy consumption
Energy

classical 2-STEPs PROCESS

EOC 1-STEP PROCESS

%energy consumption

drying

less energy

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THANK YOU! 
QUESTIONS?