ANALYSIS OF TECHNOLOGICAL PROPERTIES OF JACKET POCKETS

Akvilė BUDREVICIUTĖ, Virginija DAUKANTIENĖ
Kaunas University of Technology, Faculty of Mechanical Engineering and Design, Studentu str. 56, LT-51424 Kaunas, Lithuania,
E-mail: akvile.budreviciute@ktu.edu, e-mail: virginija.daukantiene@ktu.lt

INTRODUCTION
The pockets are designed mainly for functional and aesthetic purposes without discussing their construction complexity and ergonomics properties.

The duration of sewing operations depends on textile parameters such as thickness and friction [1], construction of clothing elements [2], workplace ergonomics [3], organization of the sewing process [3], etc. Thus, the precise determination of the duration of the operation is gaining more and more attention [4].

For the optimal construction of a particular garment element concerning its technology, the smallest number of textile pieces, technological operations, technological devices, and shortest treatment duration are required. Thus, this research aimed to investigate the influence of jacket pocket construction on its technological properties and to suggest the optimal pocket construction, based on the number of details, demand of materials and threads, and sewing time.

EXPERIMENTAL DETAILS

The schemes of the analyzed pockets are shown in Figure 1. The efficiency of pocket technology is evaluated according to:

1) the number of pocket pieces;
2) the type and demand of different materials;
3) the number of elementary sewing operations;
4) the time of pocket sewing;
5) the thread consumption L calculated analytically for the seam of 301 stitch: L=2(l+Kkh), where l – the length of sewn seam, cm; K – the coefficient of compression of the material (0.7); h – the average thickness of the materials in a seam, mm; m – the stitch density in a seam, stitches/cm.

The parameters of the welt pockets with flaps:
- the length of the opening – 15 cm;
- the width of the flap – 5 cm;
- the bag depth – 18 cm;
- the width of the inner piece – 6 cm;
- the width of the (folded) edging is 0.6 cm.

The materials:
- F01 woven fabric: 54 % PES, 44 % wool, 2 % EL; 185 g/m² area density, 0.39 mm thickness;
- F02 lining: 100 % viscose 72 g/m² area density; 0.12 mm thickness;
- F03 nonwoven fussed interlining: 100 % PES; 0.33 mm thickness; 100 % PA adhesive layer; 76 dots/cm² density.

RESULTS AND DISCUSSION

The pieces of the pockets were designed according to the measurements known from theory and practice (Fig. 2.)

The lowest quantity of fabric pieces is required for the design of K7 and K8 pockets and the highest for the design of K3, K4, K6, and K10 pockets.

The number of elementary operations (Table 1) of the K1 and K5 pockets are the smallest – 13 operations. The sequence of operations for the K11 pocket is the longest; it consists of 17 elementary operations.

Table 1 Summary of number of the sewing operations

<table>
<thead>
<tr>
<th>Pocket code</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>K1</td>
<td>13</td>
</tr>
<tr>
<td>K2</td>
<td>14</td>
</tr>
<tr>
<td>K3</td>
<td>14</td>
</tr>
<tr>
<td>K4</td>
<td>14</td>
</tr>
<tr>
<td>K5</td>
<td>16</td>
</tr>
<tr>
<td>K6</td>
<td>16</td>
</tr>
<tr>
<td>K7</td>
<td>17</td>
</tr>
<tr>
<td>K8</td>
<td>17</td>
</tr>
<tr>
<td>K9</td>
<td></td>
</tr>
<tr>
<td>K10</td>
<td></td>
</tr>
<tr>
<td>K11</td>
<td></td>
</tr>
<tr>
<td>K12</td>
<td></td>
</tr>
</tbody>
</table>

The K7 pocket is the most time efficient (Fig. 4). The longest manufacturing duration is for the K11 pocket due to the largest number of pocket pieces and the technological operations required to join them.

REFERENCES