TEST: Window Film Abrasion Resistance


TEST SPECIMEN: 3M™ Safety S70 (SH7CLARL) Safety and Security Window Film
Lot: GT 500 16354, roll# 290D6049
Date of Manufacture: 9/29/2009

TEST APPARATUS: Teledyne 5150 Taber Abraser, CS-10F Calibrase Wheel
BYK Gardner Haze-Gard Plus Hazemeter

SETTINGS: 500 grams, 100 cycles. 60 rpm. Wheel cleaned for 25 cycles with previously abraded sample following resurfacing

OVERVIEW:
Four 4x4 inch specimens were subjected to abrasion by means of a Taber Abraser with a load of 500 grams on each CS-10F Calibrase wheel for 100 cycles and operated in accordance with ASTM D1044-05. Haze measurements from four locations within each sample were made before and after abrasion, by means of a Pivotable-Sphere Hazemeter. The light scatter scattered as a result of abrasion was calculated and defined by the difference in haze before and after abrasion.

RESULTS:

<table>
<thead>
<tr>
<th>Specimen #</th>
<th>Initial Haze (%)</th>
<th>Haze after Abrasion (%)</th>
<th>Difference (Increase in Haze) (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety S70 - 1</td>
<td>3.1</td>
<td>7.5</td>
<td>4.4</td>
</tr>
<tr>
<td>Safety S70 - 2</td>
<td>3.2</td>
<td>7.9</td>
<td>4.7</td>
</tr>
<tr>
<td>Safety S70 - 3</td>
<td>3.8</td>
<td>6.8</td>
<td>3.0</td>
</tr>
<tr>
<td>Safety S70 - 4</td>
<td>4.3</td>
<td>7.7</td>
<td>3.4</td>
</tr>
</tbody>
</table>

Average Difference (Increase in Haze) 3.9
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