

**STYLAM COMPACT LAMINATES - FIRE RETARDENT**

Compact High Pressure Laminates (HPL) as per EN 438-4 : 2016, flame retardant CGF

| SL. NO.  | PROPERTIES                                     | TEST METHOD     | ATTRIBUTES OF PERFORMANCE  | UNIT OF MEASUREMENT             | RESULTS (AS PER EN 438-4) |
|----------|--|-----------------|--|---------------------------------|---------------------------|
|          |  |                 | EN-438 Laminate Classification   |                                 | CGF/EDF                   |
| <b>1</b> | <b>SURFACE QUALITY</b>                         |                 |  |                                 |                           |
| 1.1      | Surface quality                                | EN 438-2.4      | Spots, dirt and similar surface defects                                | mm <sup>2</sup> /m <sup>2</sup> | ≤ 1                       |
|          |  |                 | Fibres, hairs and scratches  | mm/m <sup>2</sup>               | ≤ 10                      |
| <b>2</b> | <b>DIMENSIONAL PROPERTIES</b>                  |                 |  |                                 |                           |
| 2.1      | Thickness                                      | EN 438-2.5      | Thickness tolerance  | mm                              | 1 ≤ T < 2 : ± 0.15        |
|          |  |                 |  | mm                              | 2 ≤ T < 3 : ± 0.2         |
|          |  |                 |  | mm                              | 3 ≤ T < 5 : ± 0.3         |
| 2.2      | Size   | EN 438-2.6      | Length and width   | mm                              | + 10 / - 0                |
| 2.3      | Straightness of edges                          | EN 438-2.7      | Straightness of edges  | mm/m                            | ≤ 1,5                     |
| 2.4      | Squareness                                     | EN 438-2.8      | Squareness   | mm/m                            | ≤ 1,5                     |
| 2.5      | Flatness                                       | EN 438-2.9      | Flatness (measured on full-size sheet)                                 | mm/m                            | Max, 8,0                  |
| <b>3</b> | <b>PHYSICAL PROPERTIES</b>                     |                 |  |                                 |                           |
| 3.1      | Resistance to surface wear                     | EN 438-2.10     | Wear Resistance  | Revolutions                     | ≥ 350                     |
| 3.2      | Resistance to immersion in boiling water       | EN 438-2.12     | Mass increase  | %                               | CGF - ≤ 7                 |
|          |  |                 | Thickness increase   | %                               | CGF - ≤ 9                 |
|          |  |                 | Appearance - Gloss Finish  | Rating                          | ≥ 3                       |
|          |  |                 | Appearance - Other Finishes  | Rating                          | ≥ 4                       |
| 3.3      | Resistance to water vapour                     | EN 438-2.14     | Appearance - Gloss Finish  | Rating                          | ≥ 3                       |
|          |  |                 | Appearance - Other Finishes  | Rating                          | ≥ 4                       |
| 3.4      | Resistance to dry heat (160°C)                 | EN 438-2.16     | Appearance - Gloss Finish  | Rating                          | ≥ 3                       |
|          |  |                 | Appearance - Other Finishes  | Rating                          | ≥ 4                       |
| 3.5      | Dimensional stability at elevated temperatures | EN 438-2.17     | Cumulative dimensional change - 2 ≤ T < 5mm                            | L %<br>T %                      | ≤ 0,40<br>≤ 0,80          |
| 3.6      | Resistance to impact with large diameter ball  | EN 438-2.21     | Indent. dia. 10mm - Drop Height  | mm                              | ≥ 1400                    |
| 3.7      | Resistance to crazing                          | EN 438-2.24     | Appearance   | Rating                          | ≥ 4                       |
| 3.8      | Resistance to scratching                       | EN 438-2.25     | Appearance - Smooth Finishes   | Rating                          | ≥ 2                       |
|          |  |                 | Appearance - Textured Finishes   | Rating                          | ≥ 3                       |
| 3.9      | Resistance to staining                         | EN 438-2.26     | Appearance - Group 1 & 2   | Rating                          | ≥ 5                       |
|          |  |                 | Appearance - Group 3   | Rating                          | ≥ 4                       |
| 3.10     | Light fastness (Xenon arc)                     | EN 438-2.27     | Contrast   | Grey scale rating               | 4 to 5                    |
| 3.11     | Flexural modulus                               | EN ISO 178      | Stress   | Mpa                             | ≥ 9000                    |
| 3.12     | Flexural strength                              | EN ISO 178      | Stress   | Mpa                             | ≥ 80                      |
| 3.13     | Density  | EN ISO 1183     | Density  | gm/cm <sup>3</sup>              | ≥ 1,35                    |
| <b>4</b> | <b>FIRE PERFORMANCES</b>                       |                 | Test as per EN 13823 (SBI test) and EN ISO 11925-2 (Small-burner test) |                                 |                           |
| 4.1      | Fire Reaction Classification, EGF-EDF          | EN 135 01       | Classification - 3 ≤ T < 6 mm  | Rating                          | B - s2, d0                |
|          |  |                 | Classification - T ≥ 6 mm  | Rating                          | B - s1, d0                |
| 4.2      | Fire Reaction Classification, EGS-EDS          | EN 135 01       | Classification - T ≥ 10 mm   | Rating                          | B - s1, d0                |
| <b>5</b> | <b>OTHER PROPERTIES</b>                        |                 |  |                                 |                           |
| 5.1      | Release of Formaldehyde                        | EN 438-7.4.11.1 | Classification   | Rating                          | E1                        |

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**Disclaimer :**

This Product Technical Sheet gives technical information relevant to the performance of product as tested by STYLAM and External Certified testing agencies. STYLAM reserves the right to change product composition and characteristics at any time.