

## S-morpho Technical Data Sheet (1) :

| Characteristics    | Test method                                                                                            | Required Value                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------------|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Thickness          | EN 438-2 section 5                                                                                     | $2.0 \leq t < 3.0 \text{ mm} : \pm 0.20 \text{ mm}$<br>$3.0 \leq t < 5.0 \text{ mm} : \pm 0.3 \text{ mm}$<br>$5.0 \leq t < 8.0 \text{ mm} : \pm 0.4 \text{ mm}$<br>$8.0 \leq t \leq 12.0 \text{ mm} : \pm 0.5 \text{ mm}$<br>$12.0 \leq t < 16.0 \text{ mm} : \pm 0.6 \text{ mm}$<br>$16.0 \leq t < 20.0 \text{ mm} : \pm 0.7 \text{ mm}$<br>$20.0 \leq t < 25.0 \text{ mm} : \pm 0.8 \text{ mm}$<br>$25.0 \leq t : \text{According To}$<br>Agreement customer / producer |
| Density            | ISO 1183 – 1                                                                                           | Min. 1.35 gr/cm <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Wear Resistance    | EN 438-2 section 10<br>CGS                                                                             | Initial Point $\geq 150 \text{ Rev.}$<br>Wear Value $\geq 350 \text{ Rev.}$                                                                                                                                                                                                                                                                                                                                                                                               |
| Scratch Resistance | EN 438-2 section 25<br>CGS                                                                             | Flat Surface Min. 2 N<br>Textured Surface Min. 3 N                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Impact Resistance  | EN 438-2<br>Big Ball section 21<br>CGS<br><br>$2.0 \leq t < 6.0 \text{ mm}$<br>$t \geq 6.0 \text{ mm}$ | 1400 mm height : no crack , 10 mm Max.<br><br>1800 mm height : no crack , 10 mm Max.                                                                                                                                                                                                                                                                                                                                                                                      |

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| Characteristics                    | Test method                                                                                                             | Required Value                                                                                                         |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Surface Crack @ 80°C<br>20 Hours   | EN 438-2 section 24<br>CGS                                                                                              | Min. Level 4                                                                                                           |
| Resistance to Dry Heat<br>at 180°C | EN 438-2 section 16<br>CGS<br>Glossy Surface Finish<br>Other Surface Finish                                             | Min. Level 3<br>Min. Level 4                                                                                           |
| Resistance to Water<br>Vapor       | EN 438-2 section 14<br>CGS<br>Glossy Surface Finish<br>Other Surface Finish                                             | Min. Level 3<br>Min. Level 4                                                                                           |
| Resistance to Boiling<br>Water     | EN 438-2 section 12<br>CGS<br>$2.0 \leq t < 5.0$ mm<br>$t \geq 5.0$ mm<br>Glossy Surface Finish<br>Other Surface Finish | Max. 5% in weight<br>Max. 6% in thickness<br>Max. 2% in weight<br>Max. 2% in thickness<br>Min. Level 3<br>Min. Level 4 |
| Resistance to Cigarette<br>Burn    | EN 438-2 section 30<br>CGS                                                                                              | Min. Level 3                                                                                                           |
| Resistance to Staining             | EN 438-2 section 26<br>CGS<br>Group 1 + 2<br>Group 3                                                                    | Min. Level 5<br>Min. Level 4                                                                                           |
| Flatness                           | EN 438-2 section 9<br>CGS<br>$2.0 \leq t < 6.0$ mm<br>$6.0 \leq t < 10.0$ mm<br>$t \geq 10.0$ mm                        | Max. 8 mm / 1 M length<br>Max. 5 mm / 1 M length<br>Max. 3 mm / 1 M length                                             |

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| Characteristics           | Test method                                                          | Required Value                                                               |
|---------------------------|----------------------------------------------------------------------|------------------------------------------------------------------------------|
| Light Fastness            | EN 438-2 section 27<br>CGS<br><br>Grey Scale                         | Min. Level 4                                                                 |
| High Temp. stability 70°C | EN 438-2 section 17<br>CGS<br><br>2.0 ≤ t < 5.0 mm<br><br>t ≥ 5.0 mm | L : Max. 0.4 mm<br>W : Max. 0.8 mm<br><br>L : Max. 0.3 mm<br>W : Max. 0.6 mm |
| Tensile Strength          | EN ISO 527 – 2<br>CGS                                                | Min. 60 MPa                                                                  |
| Bending Strength          | EN ISO 178<br>CGS                                                    | Min. 80 MPa                                                                  |

### Remarks :

@ CGS = Compact Grade Standard Laminate

@ Required Values Based on 438-4