





































COMPARISON OF ACRYLIC SOLID SURFACE BRANDS

BẢNG SO SÁNH TÍNH CHẤT CÁC DÒNG ĐÁ NHÂN TẠO

| CRITERIA/ PROPERTY TIÊU CHUẨN/ TÍNH CHẤT | | LOTTE STARON | | LG HI-MACS | | SNOGEN STONIA | | DUPONT CORIAN | | CHINESE (SH KELESI) | |
|--|--|---|-----------------------------|---|---|---|---------------------------|---|--|---|---------------------------------|
| | | Test Method Phương pháp/ Tiêu chuẩn | Typical Result Kết quả | Test Method Phương pháp/ Tiêu chuẩn | Typical Result Kết quả | Test Method Phương pháp/ Tiêu chuẩn | Typical Result Kết quả | Test Method Phương pháp/ Tiêu chuẩn | Typical Result Kết quả | Test Method Phương pháp/ Tiêu chuẩn | Typical Result Kết quả |
|  | Radiant Heat Resistance Khả năng chống nóng bức xạ | NEMA LD3-3.10 | Pass | NEMA LD3-3.10 | 600+ seconds No Effect - Pass | JIS K 6902 : 2008 | No Defects | | | NEMA LD3 | No visual effect |
|  | Linear Thermal Expansion Hệ số giãn nở nhiệt dài | ASTM D696-03 | 1.35 x 10 ⁻⁵ /°C | ASTM E 228-95 | 3.81 x 10 ⁻⁵ mm/mm °C (2.12 x 10 ⁻⁵ in./in. °F) - Pass | ASTM E 228-95 | Pass | ASTM E228 | 3.9 x 10 ⁻⁵ m/m °C (2.2 x 10 ⁻⁵ in. / in. °F) | | |
|  | Thermal Expansion Hệ số giãn nở nhiệt | ASTM D 696 | 0.000015 inch / inch / °F | ASTM D 696 | 0.000018 inch / inch / °F | ASTm D648-16 (Method B) | 95°C | | | ASTM D696 | 2.0 x 10 ⁻⁵ in/in Fo |
|  | Flexural Strength Cường độ chịu uốn | ASTM D790-07 | 53.6 Mpa | ASTM D-790-99 | 78.77 Mpa (11,424 psi) - Pass | ASTM D790-15e2(**) | 65.2 Mpa | ASTM D790 | 10,000 psi | ASTM D790 | 8,000 psi |
|  | Flexural Modulus (MPSI) Mô-đun chịu uốn | ASTM D790-07 | 11.9 Gpa | ASTM D 790-99 | 9239 Mpa (1.34 Mpsi) Pass | ASTM D790-15e2(**) | 8.52 Gpa | ASTM D790 | 1.2 x 10 ⁶ psi | ASTM D790 | 1.2 x 10 ⁵ psi |
|  | Flatness of Sheets Độ phẳng | ISSFA SST 4.1-00 | Pass | ISSFA SST 4.1-00 | Length - <0.25 mm (<0.010 in.) Positive Warp Width - 0.50 mm - Pass | ISSFA SST 4.1-00 | Pass | ISFA SST 4.1-00 | Pass | | |
|  | Impact Resistance Khả năng chống va đập | ANSI Z124.6-07 | Pass | ISSFA SST 6.1-00 | Pass at 1525 mm (60 in.) Thickness = 0.46450 in. | ISSFA SST 6.1-00 | Pass | | | | |
|  | Consistency of Color (Color Stability) Độ bền màu | ISSFA SST 2.1-00 | Pass | ISSFA SST 2.1-00 | Pass | KS F 4810 - 198 6 | 98% | ISFA SST 2.1-00 | Pass | No change - 240hrs | NEMA LD-3 |
|  | Cleanability Stain Rating Khả năng lau chùi vết bẩn | ISSFA SST 2.1-00 | 30 (17/13) | ISSFA SST 3.1-00 | 30 (17/13) | DIN 53 387, 04-89 | Pass | | | | |
|  | Visual Defects Lỗi nhìn thấy được | ISSFA SST 5.1-00 | Pass | ISSFA SST 5.1-00 | Pass | ISSFA SST 5.1-00 | Pass | ISFA SST 5.1-00 | Pass | | |
|  | Light Resistance Khả năng chịu sáng | NEMA LD 3-3.03 ISSFA SST 7.1 | Pass | NEMA LD 3-3.03 ISSFA SST 7.1 | No Effect - Pass | DIN 53 387, 04-89 | Good (> 6) | ISO 19712-2 | Pass | | |

| | | | | | | | | | | | |
|--|---|----------------------------------|--|---|---|---------------------------------------|---|---------------------------------|--|---------------|-------------------------|
|  | Boiling Water Resistance <i>Khả năng chịu nước sôi</i> | NEMA LD3 2000 3.5 | No effect | NEMA LD 3-3.05 ISSFA SST 8.1-00 | No Effect - Pass | ASTM D 648 | 221-230 °F | NEMA LD 3-3.5 | No visible change | NEMA LD3 | Pass |
|  | High Temperature/ Heat Resistance <i>Khả năng chịu sức nóng/ nhiệt độ cao</i> | NEMA LD3 2000 3.6 | No effect | NEMA LD 3-3.06 ISSFA SST 9.1-00 | No Effect - Pass | DIN 68 861, part 7, 04-85 | 30.0 X 10 ⁶ m/m/°C x 106in/in/F | NEMA LD 3-3.6 | No change | NEMA LD3 | No effect |
|  | Tensile Strength <i>Cường độ căng dãn</i> | ASTM D 638 | 6,000 psi | ASTM D 638 | 6,000 psi | ASTM D638-14(*) | 34.4 Mpa | ASTM D638 | 6,000 psi | ASTM D638 | 5,000 psi |
|  | Tensile Modulus of Elasticity <i>Suất đàn hồi</i> | ASTM D 638 Nominal | 1.35 x 106 / sq inch (850 kg / sq mm) | ASTM D 638 Nominal | 1.35 x 106 / sq inch (850 kg / sq mm) | ASTM D638-14(*) | 9.40 Gpa | ASTM D638 | 1.5 x 10 ⁶ psi | ASTM D638 | 1 x 10 ⁶ psi |
|  | Tensile Elongation <i>Độ giãn dài</i> | ASTM D 638 | 0.5% min | ASTM D 638 | 0.5% min | DIN 318 | < 0.05 mm | ASTM D638 | 0.4% min | ASTM D638 | 0.5% min |
|  | Mohs Hardness <i>Độ cứng Mohs</i> | MOHS Hardness Scale | 7 | ASTM D 2583 | 60 Pass | ASTM D785-08 (2015) Procedure A | 87 | | | | |
|  | Rockwell Hardness <i>Độ cứng Rockwell</i> | ASTM D785-03 | 114 | | | ASTM D785-08(2015) (Procedure A) | 92 | ASTM D785 | > 85 | ASTM D785 | > 85 |
|  | Barcol Hardness <i>Độ cứng Barcol</i> | ASTM D 2583 | Pass | ASTM D 2583 | 65 - Pass | ASTM D 785 | 63 | ISO 19712-2 (ASTM D2583) | | ASTM D2583 | 65 |
|  | Deflection Temperature (under load) <i>Nhiệt độ uốn cong (chịu tải)</i> | ASTM D 648 | 100°C | ASTM D 648 | 90°C (194 °F) | ASTM D648-16(Method B) | 100°C | | | | |
|  | Wear and Cleanability <i>Khả năng chùi rửa & vệ sinh</i> | ANSI Z-124.3 ISSFA SST 3.1-00 | Pass | ANSI Z-124.3 ISSFA SST 3.1-00 | Pass | ANSI Z-124.3 ISSFA SST 3.1-00 | Pass | CSA B45.5-17 IAPMO Z124-2017 | Pass | | |
|  | Stain Resistance <i>Khả năng chống bám bẩn</i> | ANSI Z124.6-07 | Pass | ANSI Z-124.3 Modified; 3.4 & 11 | No Effect - Pass | KS F 4810 -198 6 | 98% | CSA B45.5-17 IAPMO Z124-2017 | Pass | ANSI Z124 | Pass |
|  | Cigarette Test of Burns <i>Độ cháy từ thuốc lá</i> | ANSI Z124.6-07 | Pass | | | DIN 68 861, part 6, 11-82 | 6C | ISO 19712-2 | Pass | | |
|  | Chemical Resistance <i>Khả năng chống hóa chất</i> | ANSI Z124.6-07 | Pass | | | ANSI Z124.6-07 | Pass | | | | |
|  | Abrasion Resistance <i>Khả năng chống mài mòn sâu</i> | ASTM D4060-07 | 606mg | | | ASTM D4060-07 | Pass | | | ANSI Z124 | Pass |
|  | Fungi and Bacterial Resistance <i>Khả năng kháng khuẩn & nấm</i> | ASTM G21-96 ASTM G22-96 | No effect | ASTM G 21 ASTM G 22 ANSI / NSF Standard 51 | No Effect - Pass Approved for use in all food zones | DIN 53 387, 04-89 | No Effect - Pass Approved for use in all food zones | ASTM G21 ASTM G22 | ASTM rating of 0, no observed growth on product at 100x power | ASTM G21, G22 | No growth |
|  | IZOD Impact Strength <i>Độ bền va đập IZOD</i> | ASTM D 256, Method A | Pass | ASTM D 256, Method A | 0.3 foot lbs per inch (0.016 joules / mm) | ASTM D256-10e1(Method A) | 26 J/m | | | ASTM D256 | No effect |
|  | Ball Impact Resistance <i>Độ bền chống va đập</i> | NEMA LD 3-3.08 | Pass | NEMA LD 3-3.08 | 0.5 lbs (0.23 kg) ball 1/4" slab - 36" drop 1/2" slab - 144" drop | ASTM D 256 JIS-K-6718 | 1.50 kg x cm/cm 31.50 in/0,5 lbs | NEMA LD 3-3.8 | 36 in. (no failure at height) | | |

| | | | | | | | | | | | |
|--|--|----------------------------|--------------------|----------------------------|---|------------------------------|----------|---------------------------------|-----------------------|-----------|-------|
|  | Weatherability <i>Khả năng chống chọi với thời tiết</i> | ASTM D 2565 ASTM D-1499 | Pass | ASTM D 2565 ASTM D-1499 | Pass (1000 hr test) | AMK | Positive | | | | |
|  | Specific Gravity/ Bulk Density <i>Khối lượng riêng</i> | ASTM D792-08 | 2.41 | ASTM D792 (Density) | 1.60 grams per cubic centimeter (0.06 lb / inch ²) | ASTM D792-13 (Method A) | 1.75 | ASTM D792 | 1.7 g/cm ³ | ASTM D792 | 1.75 |
|  | Water Absorption (24h Immersion) <i>Độ hút nước (ngâm 24 giờ)</i> | ASTM C373-06 | 0.03% | ISO 4586-2 ASTM D570 | 1/4" slab - 0.07% 1/2" slab - 0.04% | ASTM D570-98(2010)e1 | 0.04% | | | ASTM D570 | 0.03% |
|  | Toxicity <i>Tính độc hại</i> | Pittsburgh Protocol | 60 grams (2.11 oz) | Pittsburgh Protocol | 66.9 grams (2.36 oz) | DIN 68 861, part 1,12-81 | 1B | | | | |
|  | Flammability <i>Khả năng phát cháy/ bắt lửa</i> | ASTM E84-09 | Class A | ASTM E84: Class I or A | <25 <25 | BAM Certificate - DIN 4102-1 | B1 | NFPA 101®: Life Safety Code® | Class A | | |
|  | Flame Spread Index <i>Chỉ số lan truyền ngọn lửa</i> | | | | | | | ASTM E84 NFPA 255 & UL 723 | FSI < 25 | | |
|  | Smoke Development Index <i>Chỉ số sinh khói</i> | | | | | | | ASTM E84 NFPA 255 & UL 723 | SDI < 25 | | |
|  | Compressive Strength <i>Cường độ chịu nén</i> | | | | | | | ASTM C365 | 16,000 psi | | |

