

CLIENT: **Kinon Surface Design Inc.**
2700 Quantum Blvd
Boynton Beach, Florida 33426

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| Test Report No: TJ7112-1 | Date: June 11, 2020 |
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SAMPLE ID: Sample identified as: **KFR0122 ULTRA CAST**

SAMPLING DETAIL: Test samples were submitted to the laboratory directly by the client. No special sampling conditions or sample preparation were observed by QAI.

DATE OF RECEIPT: Samples were received at QAI, Tulsa Oklahoma on April 21, 2020.

TESTING PERIOD: May 4 – June 3, 2020

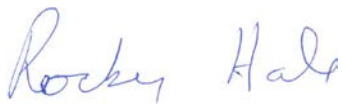
AUTHORIZATION: Testing was authorized by proposal No. 20MA040301R1 by Angela Fazioli, dated April 16, 2020.

TEST PROCEDURE: ASTM G21-15 *Determining Resistance of Synthetic Polymeric Materials to Fungi*

TEST RESULTS: Detailed test results are presented in the subsequent pages of this report.

PREPARED BY

**SIGNED FOR ON BEHALF OF
QAI LABORATORIES INC.**



Rocky Hale
Material Test Technician

Project Manager

Test Procedure and Results

Samples were tested in accordance with ASTM G21-15, as per the procedure outlined in sections 9.1 and 9.2. Samples were evaluated for visible effects of fungal growth in accordance with ASTM G21-15 section 9.3-Observation for Visible Effects. The client did not request further evaluation as per ASTM G21-15 section 9.4-Effect on Physical, Optical, or Electrical Properties. Therefore, no evaluations were performed to section 9.4 or to the ASTM Recommended Test Methods listed in TABLE X1.1 of the standard.

All materials, equipment, reagents, water, nutrient-salts Agar, and spore suspensions used during the testing of the specimens complied with the applicable sections of ASTM G21-15. A listing of the fungal cultures used is contained in Table 1 of this report.

At the start of the testing three (3) specimens and three (3) control specimens were placed in separate Petri dishes, which had been prepared with solidified agar. The samples were then inoculated with a composite spore suspension sprayed from a sterilized atomizer until the entire surface was moistened.

The specimens were covered and incubated in a Temperature/Humidity chamber that maintained a temperature between 28 and 30°C (82 and 86°F) and a minimum of 85% relative humidity for a period of 28 days.

Samples were microscopically evaluated at the end of 28 days, in accordance with section 9.3. Section 9.3 prescribes a rating, as listed in Table 2 of this report, for the visual effects. Results of the evaluation are reported in Table 3 of this report, with photographic evidence shown in Figure 1 and Figure 2.

Table 1- Fungal Cultures Used in Composite Spray

| Fungi | ATCC No. | MYCO No. |
|---|-----------------|-----------------|
| <i>Aspergillus Brasiliensis (Formally known as niger)</i> | 9642 | 386 |
| <i>Penicillium pinophilum</i> | 11797 | 391 |
| <i>Chaetomium globosum</i> | 6205 | 459 |
| <i>Trichoderma virens</i> | 9645 | 365 |
| <i>Aureobasidium pullulans</i> | 15233 | 279 |

Table 2- Rating of Growth

| Observed Growth on Specimens (Sporulating or Non-Sporulating, or Both) | Rating |
|---|---------------|
| None | 0 |
| Traces of growth (less than 10%) | 1 |
| Light growth (10 to 30%) | 2 |
| Medium Growth (30 to 60%) | 3 |
| Heavy growth (60% to complete coverage) | 4 |

Table 3-Results

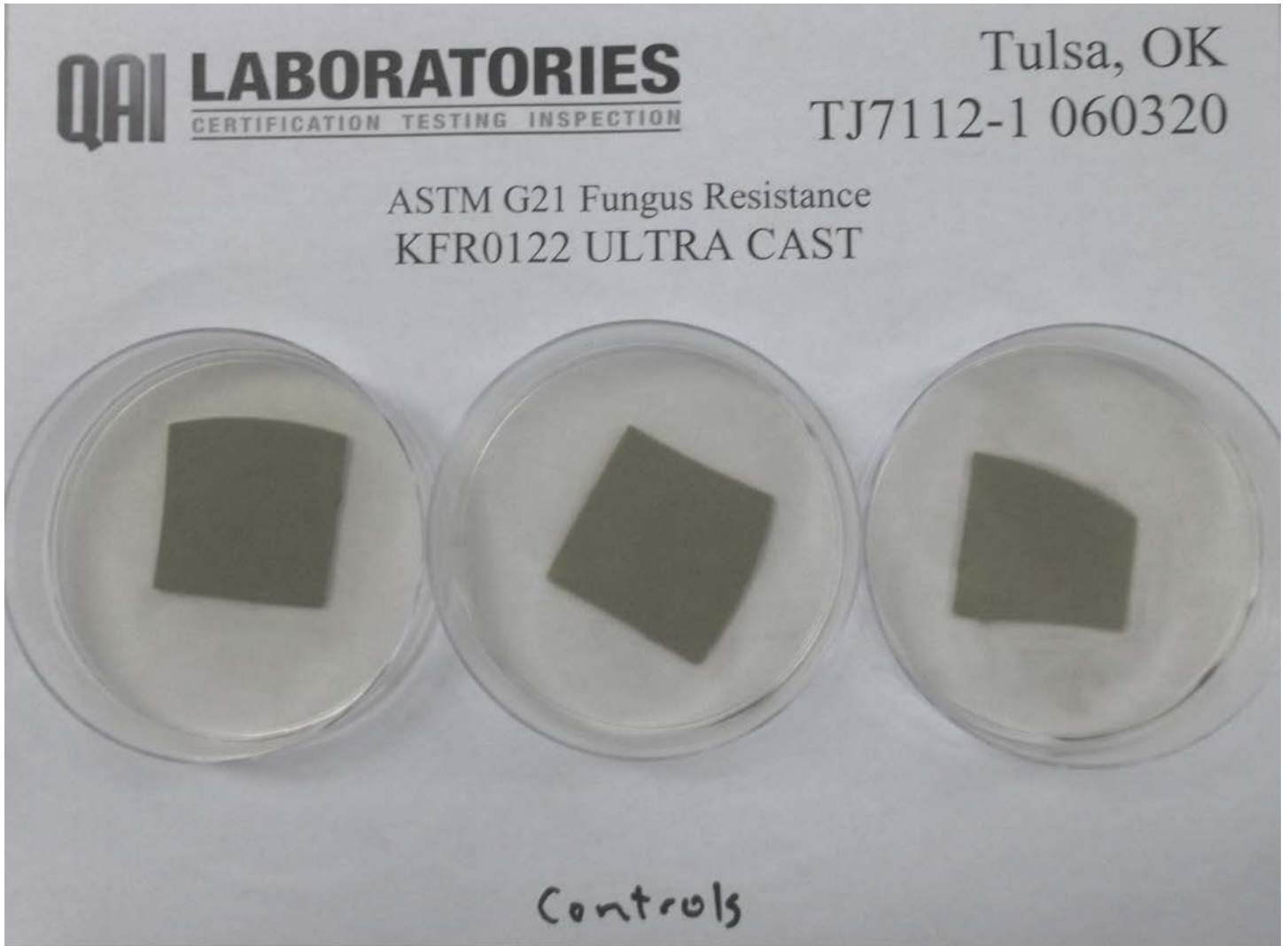
| | | | |
|-------------------|---------------------------|---------------|--|
| Sample ID | KFR0122 ULTRA CAST | | |
| Start Date | 5/6/20 | | |
| End Date | 6/3/20 | | |
| | Specimen | Rating | |
| | 1 | 1 | |
| | 2 | 1 | |
| | 3 | 1 | |
| | Controls | 4 | |

Figure 1 - Photos of Specimens After 28 Days



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Figure 2 Controls



*** END OF TEST REPORT***