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Testing of Fibergrate 2" Deep HLC Molded Grating, HLC 5820 and 5830 Gratings to NGTS 2.10 Section 131

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Procedure:

Testing was conducted in accordance with NGTS 2.10 Section 131. This specification references the test procedures in BS EN124. The 2" Deep HLC Molded Grating and the HLC 5820 grating was tested to the B125 (Medium) Class on a span of 600 mm (23.6 inch). The HLC 5830 gratings were also tested to the B125 (Medium) class, but on a span of 800 mm (31.5 inch). In accordance with the test standard, all loading was conducted with a 250 mm (9.84 inch) diameter load head.

Summary of Results:

In accordance with Section 8.3.1 of BS EN 124, all test gratings were loaded to 2/3 of the test load five times and initial and final permanent set measurements were taken at the geometric center of the grating. All gratings were loaded to 2/3 x 125 kN = 83.3 kN (18,707 lb). None of the subject gratings showed any measurable permanent set caused by this loading.

In accordance with Section 8.3.2, the three 2" Deep HLC Molded Gratings and the HLC 5820 gratings were subjected to a load in excess of 125 kN (28,033 lb) while supported on a 600 mm span, which was held for 30 seconds. All specimens held the load without failure, and some noise was noted from all samples, apparently a result of local crushing caused by the steel load head. The 2" Deep HLC Molded Gratings showed a significant amount of deflection (>25mm) under the test load. The HLC 5820 gratings deflected approximately 12 mm under the test load. The load deflection curves from all tests are attached to this report as an Appendix.

The three HLC 5830 gratings were subjected to a load in excess of 125 kN (28,033 lb) while supported on an 800 mm span, which was held for 30 seconds. All specimens held the load without signs of damage or distress. The load-deflection curves for these tests are also attached to this report.

All tested gratings returned to their original shape without permanent set after the full load testing was complete. None showed signs of imminent failure.

All of the testing where the specimens were subjected to the full 125 kN load was documented on video. This video is supplied under a separate cover.

Conclusion:

All gratings tested met the B125 load requirements of BS EN124 when tested at the spans described above. Only the 2" Deep HLC Molded Gratings deflected an excessive amount under the test load. It is important to note, however, that the test gratings did not receive a permanent set under these load conditions and did not show signs of impending failure.