

COMMERCIAL-IN-CONFIDENCE

Report prepared on behalf of Unisearch Limited

for

Shellhold Pty Ltd

Your reference: Mr John McCauley

by

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INSECT SCREENS TESTED TO THE AUSTRALIAN STANDARD

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J062133

SAMPLES

Two samples of wire mesh insect screen were provided by the client for temperature resistance testing. The samples were each approximately 500 x 900 mm. Both were coated with a black organic coating.

PROCEDURE

Two 200 mm square frames were made from 15 x 3 mm mild steel. The joints were butt welded. 200 mm square sections of mesh were cut and laid over the top of the square frames. Square mild steel bars 9 x 9 mm were 160 mm long were prepared, and these were used to clamp the wire mesh to the square frame. The outside edges of the square bars were then welded to the square frame, thus permanently securing the mesh to the frame. See figures 1 and 8.

Each frame was then supported in a horizontal position at each of four corners in a furnace, and a piece of round steel approximately 60mm diameter and 35mm long weighing 665 g was placed in the centre of each square of mesh. The furnaces were heated to 800 °C. After reaching 800 °C the furnace door was opened and the mesh examined for failure. If the mesh was still intact, the furnace was reset to heat to 850, then 900, 950 and 1000 °C with inspections at each temperature. See figures 1 to 13.

Notwithstanding the problem with the furnace used for the galvanized iron mesh (mentioned in the results section), the heating program was 2 hours from room temperature to 800 °C, and then approximately 15 minutes for every 50 °C increment thereafter.

RESULTS

During this procedure the furnace with the galvanized iron sample, switched itself off because a slight warping of the furnace door activated the door safety switch. This occurred when the temperature was about 600 °C. Consequently the temperature of this furnace dropped and lagged behind the furnace containing the stainless steel

mesh by about 400 °C. This event may have slightly accelerated the failure of the galvanized iron mesh.

The organic coating on the wire started to burn off at approximately 300 °C.

The stainless steel mesh did not fail and was heated to 1000 °C and held for 24 hours, still without failure.

The galvanized iron mesh survived heating to 900 °C and was then heated to 950 °C. As soon as the furnace reached 950 °C, the furnace door was opened and the mesh was at that stage still intact. A few seconds later however, the mesh failed and the steel mass fell.

During the cooling of the stainless mesh sample, the sample failed and the steel mass fell through.

CONCLUSIONS

The stainless steel mesh survived for 24 hours at 1000 °C with a 665 g load.

The galvanized iron wire only survived a few seconds at 950 °C with a 665 g load.



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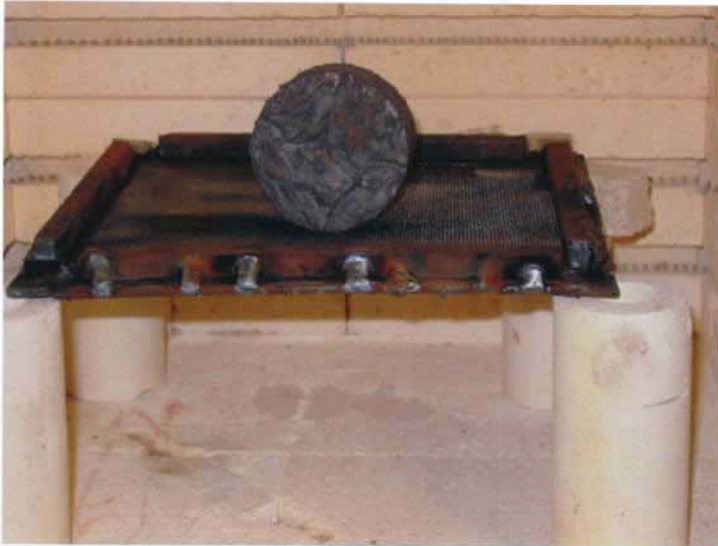


Fig.1: Stainless steel mesh sample in frame with 665g load in furnace prior to test.



Fig.2: Stainless steel sample at 800 degrees Celsius.



Fig.3: Stainless steel sample at 850 degrees Celsius.



Fig.4: Stainless steel sample at 900 degrees Celsius.



Fig.5: Stainless steel sample at 950 degrees Celsius.



Fig.6: Stainless steel sample at 1000 degrees Celsius.



Fig 7: Stainless steel sample cool after failure.

NEUTRAL SALT SPRAY TEST REPORT

Model No. / Name: 18 x 16 316 S/Steel

AZT Number: AZT0058.07b

Manufactured By: Shellhold Pty Ltd

Date of Test: 11th July 2007- 25th July 2007

Length of Test (hours): 240

Cabinet Description: Ascott CC1000XP

Salt Spray Solution Concentration: 5 %

Collected Salt Spray Solution PH: 6.9

Cabinet Temperature: 35 +/- 2 deg C



Aim: To record any affects the required time period of exposure to salt spray testing will have upon the test sample.

Procedure: Arrange sample into the booth as described in AS2331.3.1. Mix the salt solution, then program the booth to run for the required period of time. Stop the program at 1/2 the total cycle time, remove the samples and wash with running water then inspect samples for any signs of corrosion. Re-enter samples and restart program.

Observations: At the completion of 120 hours the sample was removed washed and inspected, no visible signs of corrosion were noticed at this stage. At the completion of 240hrs the sample was washed removed and inspected, there are no visible signs of corrosion.

RESULT: No visible signs of corrosion

Signatory Signature: Nathan Olsen

Date: 27th July 2007



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