

TITLE

REPEATABILITY OF
3D IR MAPPING
MACHINE

CCII-00004

VERSION

V1.0

AUTHOR

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CERAMICX CENTRE FOR
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		<h2>Technical Report</h2>			
Title:	Repeatability of 3D IR Mapping Machine				
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A consideration arising from the recent testing of several elements was to verify the repeatability of the 3D mapping machine. This was ascertained this by three repeated tests on a single element. The results are plotted in Figure 1. This figure shows that for the same test repeated three times on an 800W element, all three plots are virtually concurrent.

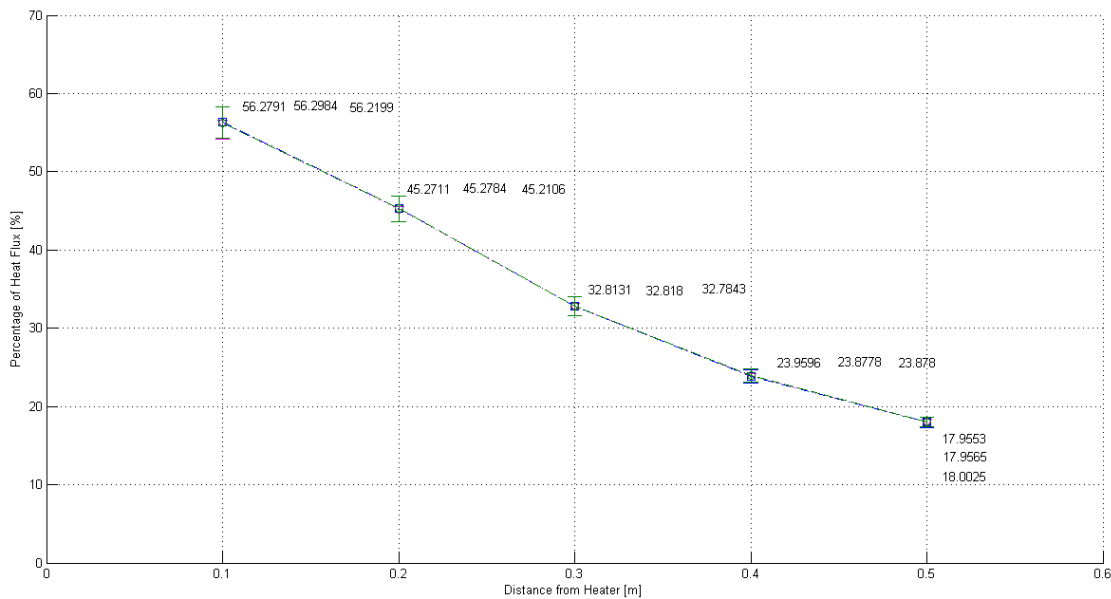


Figure 1: Repeat tests showing IR heat flux as a percentage of input power for an 800W FFEH element

Table 1 shows the actual percentage figures recorded from each same test. These are the same data as on the graph in Figure 1.

Table 1: Repeat tests showing IR flux as a percentage of input power for an 800W FFEH element

	100mm	200mm	300mm	400mm	500mm
Test 1	56.2791	45.2711	32.8131	23.9596	17.9553
Test 2	56.2984	45.2784	32.818	23.8778	17.9565
Test 3	56.2199	45.2106	32.7843	23.878	18.0025

Table 2 shows the percentage difference between each result, and it can be seen the maximum variation between results is 0.34%.

Table 2: Percentage difference comparing Test1 against Test 2 and Test 3.

%	%	%	%	%
0.034282	0.016122	0.014931	0.342578	0.006683
0.105301	0.133818	0.087847	0.341737	0.262186

This value of 0.34% is sufficiently small as to give a very high level of confidence in the repeatability of the 3D IR Mapping machine.

In future, similar spot checks should be carried out from time to time.