Nunnanlahden Uuni Oy
Joensuuntie 1344 C
FI-83940 NUNNANLAHTI, Finland

1. SAMPLE DATA

Sender:	Nunnanlahden Uuni Oy, Nunnanlahti
Date of arrival:	2 Oct. 2001
Analysis request:	**Determination of thermal shock rating**
Samples:	4 samples
Sample location:	Soapstone from Nunnanlahden Uuni Oy
Sample taken by:	Not specified in the order
Orderer's sample markings:	Combustion chamber soapstone: N1, N2, N3, and N4

1.1 Sample material and sample numbering

Soapstone cylinder	N1	010 - N1
Soapstone cylinder	N2	010 - N2
Soapstone cylinder	N3	010 - N3
Soapstone cylinder	N4	010 - N4

1.2 Study and study method

Determination of the thermal shock rate according to the Deutsche Norm 'Determination of resistance to thermal shock', DIN 51 068.

1.3 Preparation of the sample (manufacturer/commissioner)

The samples were sample cylinders, Ø = 50 mm ± 0.5 mm
and L = 50 mm ± 0.5 mm, ready to be analysed.

1.4 Analysis equipment, methods, date, and performer of the test

Heating oven: Heraeus, T5042, nominal temperature of 250 °C
Heating oven: Heraeus, type MR 170, nominal temperature of 1000 °C

The handling of the samples and determining of thermal shock rate have been performed according to the DIN 51 068 standard.

Date of analysis and performer of the test: 8-16 Oct. 2001, engineer Tapio Lahdenperä.

2. RESULTS OF THE ANALYSIS

Sample	Thermal shock rate
010 - N1	26
010 - N2	>30
010 - N3	28
010 - N4	>30

The mathematical median value for thermal shock rate from these four separate analyses is 29.

In the test series, the thermal shock rate is the cooling time when the sample breaks into at least two pieces. The test is discontinued if the material lasts 30 cooling cycles without breaking. The result is then indicated as a thermal shock rate of >30.

In Oulu on 22 Oct. 2001

KIVITIETO OY

Tapio Lahdenperä
Engineer
Performer of test

Aulis Kärki, PhD
Geologist
Supervisor of test

Postal address:
Teknologiantie 1
FI-90570 OULU

Tel. +358 8 551 4755
FAX +358 8 551 4765

VAT reg.
Business code 0753932-4
Trade reg. no. 445.992