

2. Summary of the TNO Test report Avikote AV650

2.1 General information

Efectis Netherlands (previously TNO Centre for Fire Research) has preformed a Fire Resistance Test on concrete slabs protected with Avikote AV-650 insulation spray mortar.

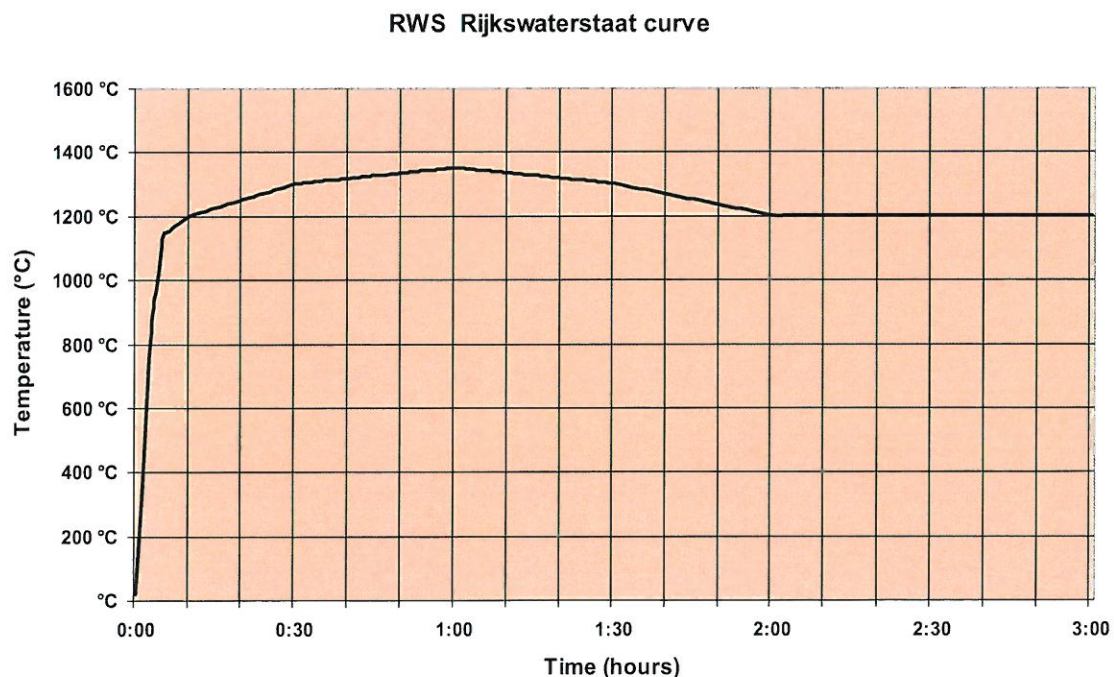
The spray mortar was sprayed onto concrete slabs to protect the concrete against a Rijkswaterstaat time-temperature curve.

The results of this test are written in the TNO report 2006-CVB-R0310.

Protection materials for tunnels are tested in the Netherlands according to a test method specially developed by TNO and Rijkswaterstaat for tunnel safety aspects. During this tests the required protection thickness of the spray mortar is determined at approximately 200 °C for bored tunnels and 380 °C for immersed tunnels.

The test specimens were heated for a period of 4 hours. The results of the test were used to calculate the optimal thickness of Avikote AV-650 spray mortar. The mortar was tested with a thickness of 25mm and 50mm provided with a reinforcing mesh.

2.2 Rijkswaterstaat Curve



2.3 Temperatures

MEASURED AND CALCULATED AVERAGE TEMPERATURES AT THE INTERFACE IN °C							
Time (h)	Thickness of the mortar in mm						
	25	29	32	33.5	35	37.5	50
1	134	<100	<100	<100	<100	<100	67
2	289	255	220	200	186	150	97
3	362	328	295	278	263	230	123
4	386	388	355	338	320	288	162

2.4 Interface temperatures

Measured and calculated average temperatures at the interface
of the Avikote AV-650 spray mortar

