

Technical Report		No. 2004-20
Test of High Expansion Foam Generators		

Titel **Test of High Expansion Foam Generators
for DNV Det Norske Veritas Type Approval
on 11.08.2004**

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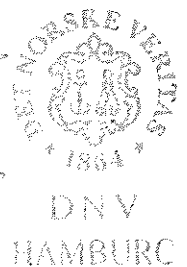
Date of handling August 2004

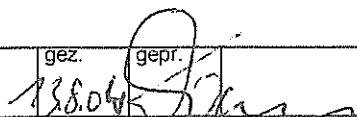
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Abstract On 11.08.2004 a type approval testing for DNV Det Norske Veritas of a GT2 and a GT4 Hige Expansion Foam Generator was executed at the fire research centre

VERIFIED CONTENTS


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Participations:

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Mrs. Dipl.-Ing. Franziska Schneider,

1. Testarrangements

The test procedure was prepared in accordance to the requirements of DNV Det Norske Veritas without fire.

The GT2 and GT4 high expansion foam generators were mounted at a sealing, an application of a rigid roof, upright hanging at a height of 5,0 m from the floor. Out of this position the foam solution filled the testfield. The testing of the GT2 was executed in the firetestroom 1 in our research center with floor space is about an averaged length of 10,81 m x 10,30 m. For the test procedure of the GT4 an expanded testfield has been required. An additional floor-space of 10,50 m x 10,13 m was provided by the firetestroom 2. At the second test (GT2) a partition wall was fixed between the firetestroom 1 and the firetestroom 2.

The chosen foam concentrate was Extensid – 15, a synthetic foam concentrate for an mixing percentage of 3 %, which induction was performed by proportioners Z2 resp. Z4 out of a 60 l drum. The height of the foam solution was measured by a surveyor's rod.

The test procedure was recorded by video and by photography.

Before the test for type approval of the GT2 and the GT4 high expansion foam generators was ready for operating, a calibration of the flow rate at the nominal working pressure of 5 bar has been executed. The flow rates of the GT2 and GT4 at 5 bar working pressure have been measured.

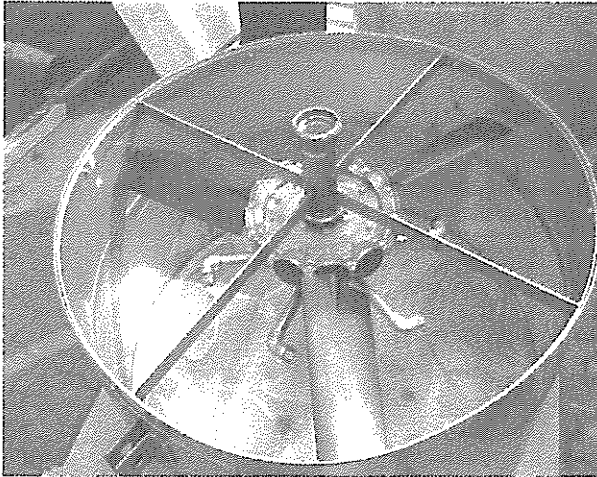
The following documents of the test procedure are enclosed:

Photos of the testfield GT4	Pages 3 to 5
GT4 Test 1 (graphics/results)	Pages 5 to 6
Photos of the testfield GT2	Pages 7 to 8
GT2 Test 1 (graphics/results)	Page 9 to 10



3. Testing of the GT2

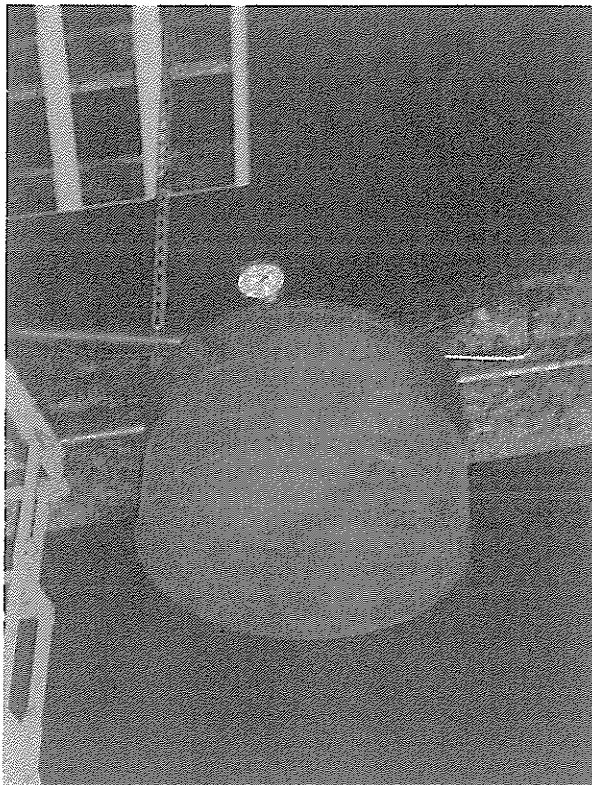
3.1. Photos of the testfield GT2



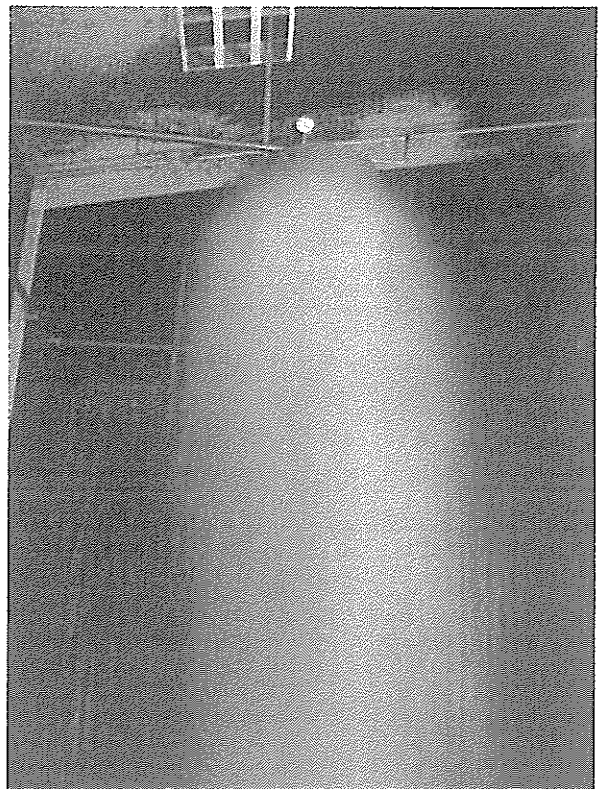
Picture 10: Dismounted GT2



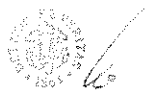
Picture 11: Mounting of the GT2 at the sealing

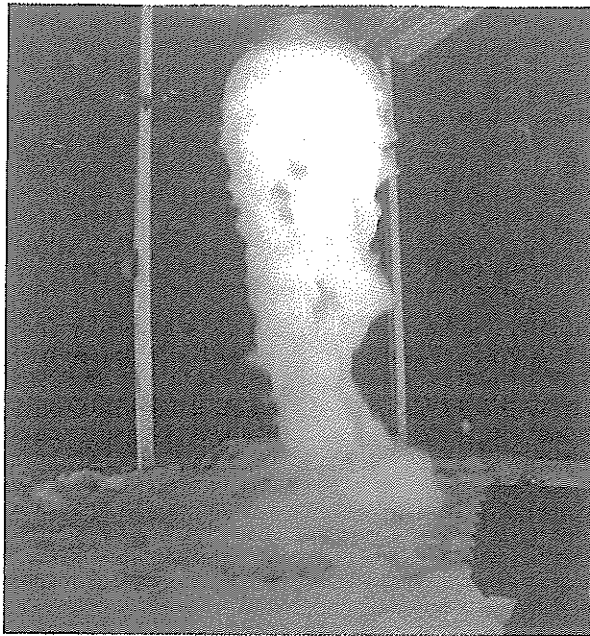


Picture 12: Mounting of the GT2 at the sealing

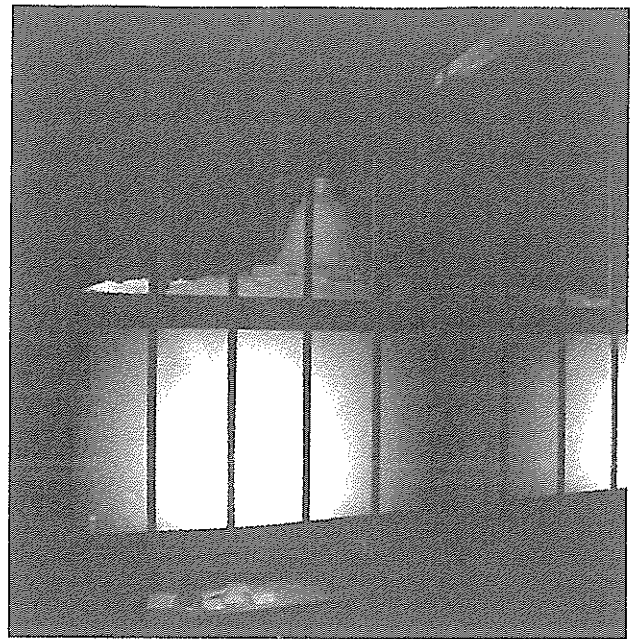


Picture 13: Calibration of the flow rate





Picture 14: Starting the test procedure



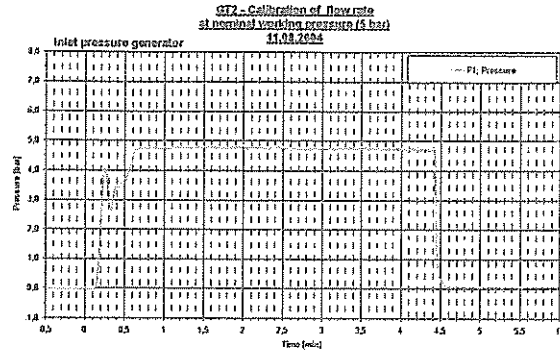
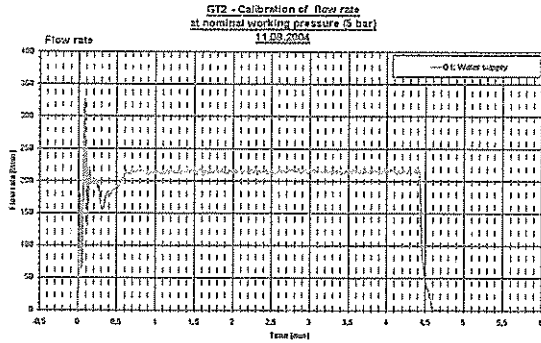
Picture 15: Visual expansion ratio



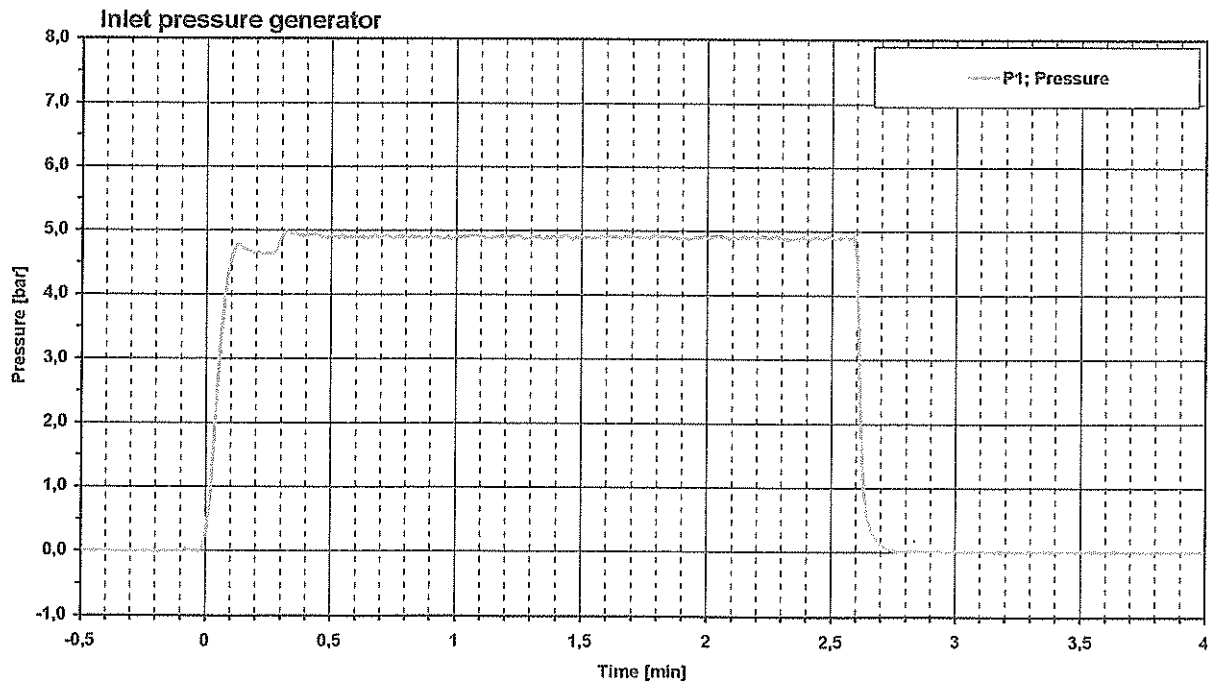
Picture 16: End of the test



3.2. Measurements of the test GT2



**GT2 - Test 1
11.08.2004**



High Expansion Foam Generator GT2

	Results of test 1
floor space	111,35 m ²
foam expansion time	2 ½ minutes
admixing percentage	3 % (Extensid -15)
foam solution flow rate	215 l/min
working pressure at generator	4,9 bar
reached hight of expanded foam	4,70 m
foam volume	523 m ³
foam expansion rate	974
Foam expansion rate including 15% normal foam shrinkage	1120

