

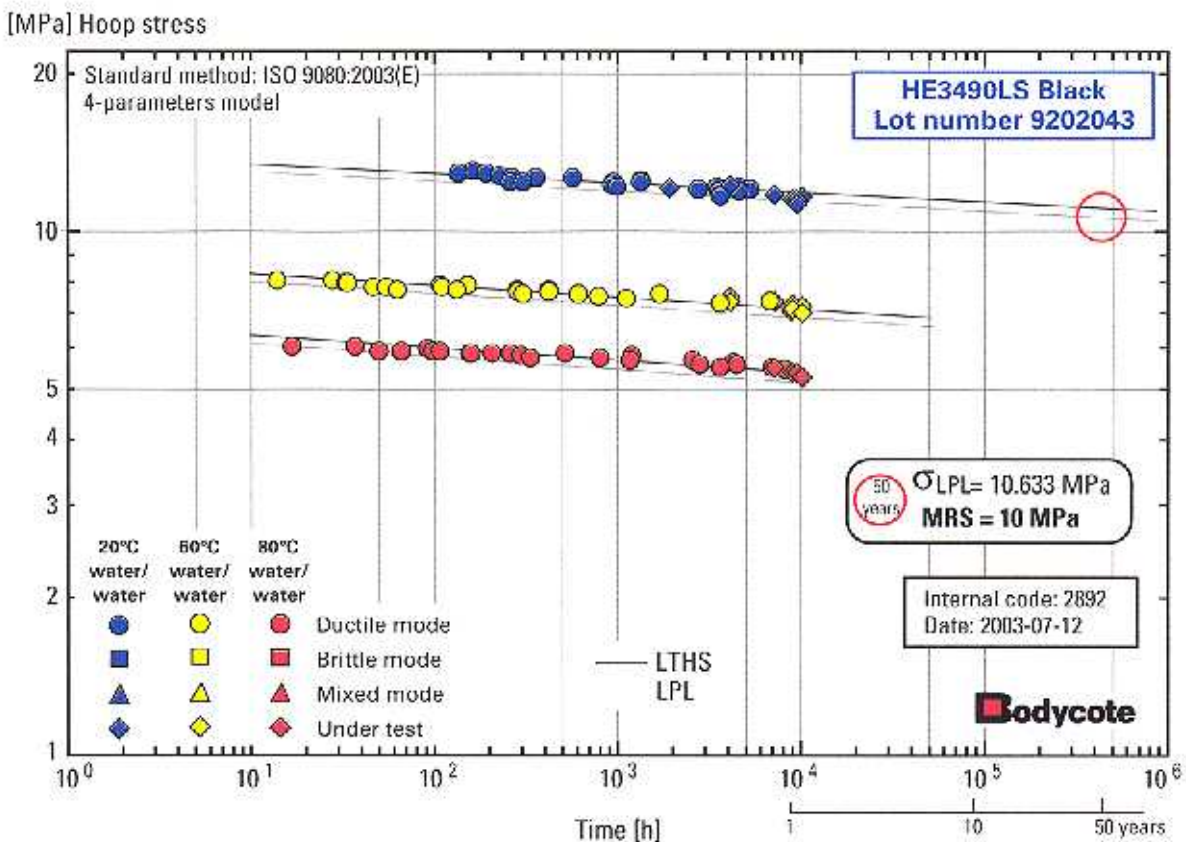
Bodycote Report

STANDARD EXTRAPOLATION METHOD (SEM)

SEM-evaluation according to ISO 9080:2003(E) of the PE pipe grade HE3490LS Black from Borouge Pte. Ltd.

Final report

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SINGAPORE**STANDARD EXTRAPOLATION METHOD (SEM)
SEM-evaluation according to ISO 9080:2003(E) of the PE pipe
grade HE3490LS Black from Borouge Pte. Ltd.****Final report****Summary**

The aim of this project was to perform a regression analysis, according to ISO 9080:2003(E), of the hydrostatic pressure test data of the PE pipe grade HE3490LS Black, presented in the Bodycote Report P-03/130, in order to obtain a classification for the material. Borouge Pte. Ltd. ordered the work on March 4, 2002.

The standard extrapolation method ISO 9080:2003(E) was used to fit the data obtained for the PE pipe grade HE3490LS Black at 20, 60 and 80°C. The hydrostatic pressure testing was performed by Bodycote Polymer AB. Different analyses were performed adding some pipe specimens, which are still in progress and using the 3- or 4-parameters models.

The 4-parameters model was finally chosen, as the probability level for C_3 was ≤ 0.05 . The selected analysis yields the following strength values at 20°C and 50 years:

Temp. °C	Time years	Extrapolated strength values	
		σ_{LPL} MPa	σ_{LTHS} MPa
20	50	10.633	10.973

According to ISO 12162:1995 (E) is the PE pipe grade HE3490LS Black classified PE 100 as its LPL value of 10.633 MPa at 20°C and 50 years exceeds a minimum required strength (MRS) of 10 MPa.

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Appendices

- A List of observations, Tables A.1 - A.3
- B Creep rupture diagram and diagram information

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2003-07-12

Creep rupture diagram

