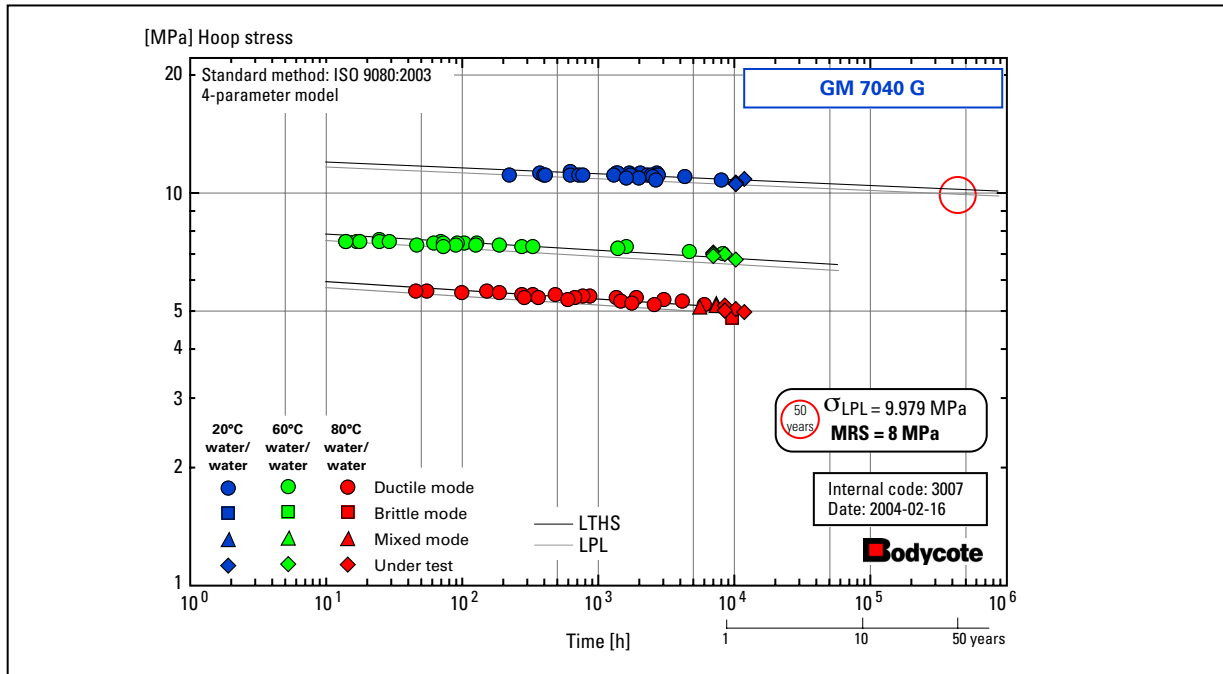


Client: Ipiranga Petroquímica S.A.

Regression analysis according to ISO 9080 of the PE pipe grade GM 7040 G



Introduction

Bodycote Polymer offers accredited testing and evaluation according to ISO 9080, i.e. hydrostatic pressure testing followed by evaluation of the long-term hydrostatic strength and MRS-classification according to ISO 12162.

Task

The aim was to use the Standard Extrapolation Method (SEM) according to ISO 9080:2003 in order to obtain a classification of the yellow PE pipe grade GM 7040 G from Ipiranga Petroquímica S.A.

The work covers hydrostatic pressure testing at 20, 60 and 80°C and a SEM-evaluation according to ISO 9080:2003.

Results obtained

The evaluation was performed in accordance with ISO 9080:2003. The 4-parameter model gave the best fit.

Number of observations

20°C	60°C	80°C
30	30	31

Extrapolated strength values

Temp °C	Time yrs	σ_{LPL} MPa	σ_{LTHS} MPa
20	50.0	9.979	10.288
20	100	9.871	10.185
60	6.64	6.331	6.581
80	1.11	4.883	5.086

Classification: MRS = 8 MPa

Please contact us for further information!