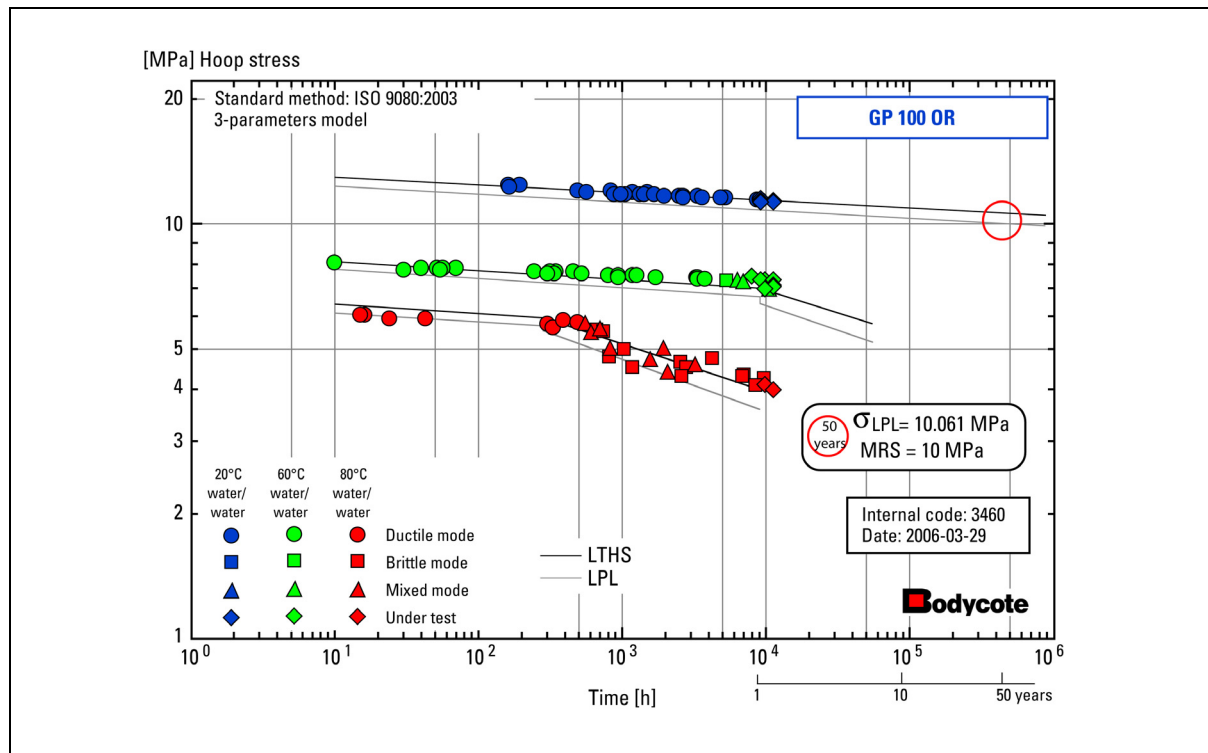


Client: IPIRANGA Petroquímica

# Regression analysis according to ISO 9080 of the PE pipe grade GP 100 OR



## 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 PE pipe grade GP 100 OR 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 3-parameter model gave the best fit. Detailed information can be found in Bodycote Report P-06/19.

### Number of observations

20°C	60°C	80°C
33	35	31

### Extrapolated strength values

Temp °C	Time Yrs	$\sigma_{LPL}$ MPa	$\sigma_{LTHS}$ MPa
20	50.0	10.061	10.605
20	100	9.906	10.472
60	6.21	5.161	5.763
80	1.03	3.564	3.982

**Classification: MRS = 10 MPa**

PLEASE CONTACT US FOR FURTHER INFORMATION!