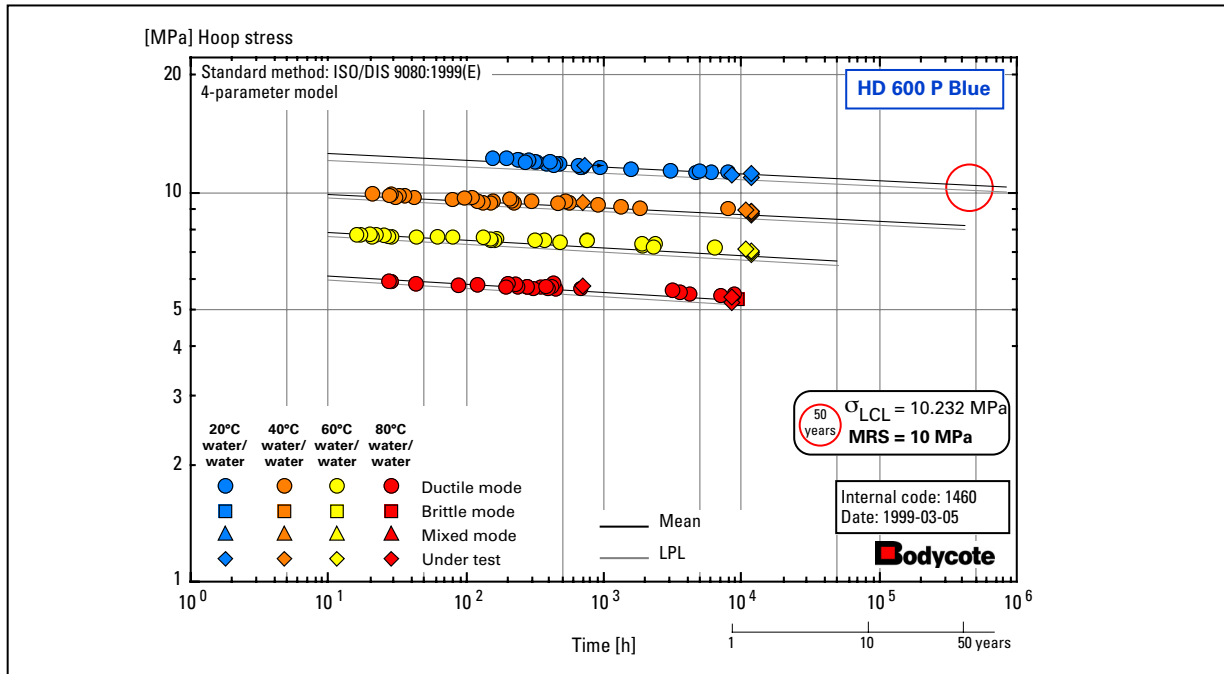


Client: Idemitsu Petrochemical Co., Ltd.

Regression analysis according to ISO/DIS 9080 of the PE pipe grade HD 600 P Blue



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/DIS 9080:1997(E) in order to obtain a classification of the PE pipe grade HD 600 P Blue from Idemitsu Petrochemical Co., Ltd..

The work covers hydrostatic pressure testing at 20, 40, 60 and 80°C and a SEM-evaluation according to ISO/DIS 9080:1997(E).

Results obtained

The evaluation was performed in accordance with ISO/DIS 9080:1997(E). The 4-parameter model gave the best fit.

Number of observations

| 20°C | 40°C | 60°C | 80°C |
|------|------|------|------|
| 30 | 30 | 30 | 30 |

Extrapolated strength values

| Temp °C | Time yrs | σ_{LPL} MPa | σ_{LTHS} MPa |
|---------|----------|--------------------|---------------------|
| 20 | 50.0 | 10.232 | 10.496 |
| 20 | 96.3 | 10.121 | 10.387 |
| 40 | 48.1 | 8.055 | 8.289 |
| 60 | 5.78 | 6.505 | 6.704 |
| 80 | 0.96 | 5.157 | 5.327 |

Classification: MRS = 10 MPa

Please contact us for further information!