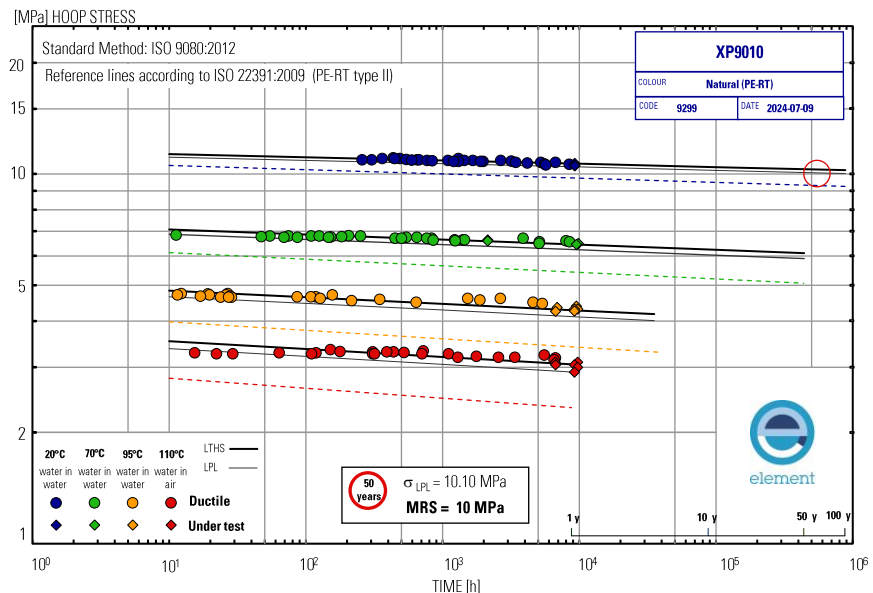CLIENT: DL CHEMICAL

REGRESSION ANALYSIS ACCORDING TO EN ISO 9080 OF THE NATURAL PE-RT PIPE GRADE XP9010

INTRODUCTION

The aim was to evaluate the pipe compound according to EN ISO 9080:2012, in order to obtain a MRS-classification according to ISO 12162:2009 of the natural PE-RT pipe grade XP9010 from DL CHEMICAL.

RESULTS OBTAINED

The evaluation was performed in accordance with ISO 9080:2012. More information can be found in Element Report P-24-80-v2.

EXTRAPOLATED STRENGTH VALUES

T	Time	σ_{LPL}	σ_{LTHS}
[°C]	[Yrs]	[MPa]	[MPa]
20	50.0	10.10	10.31
70	50.0	5.91	6.11
95	4.03	4.01	4.18
110	1.01	2.91	3.06

CLASSIFICATION

MRS = 10 MPa

Please note!
This only covers the EN ISO 9080-evaluation, MRS classification and material designation. Any additional requirements are given in the relevant product standards.

As the MRS value equals 10 MPa the material is designated PE-RT 100 according to ISO 12162:2009

PRODUCT STANDARDS

The material shows conformity with the application classes for PE-RT type II according to ISO 22391-2:2009. Class 6 is cold water at 20°C and 50 yrs.

CLASS	DESIGN STRESS [MPa]		
	σ_{LPL} [XP9010]	ISO 22391-2	PASS/ FAIL
1	4.14	3.53	PASS
2	3.94	3.37	PASS
4	4.04	3.38	PASS
5	3.44	2.88	PASS
6	8.08	7.47	PASS

It shows also conformity to the requirements in ISO 22391-2:2009 and ISO 24033:2009 of at least 97.5% of the data is above the reference lines and no brittle failures within 8 760 h.

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