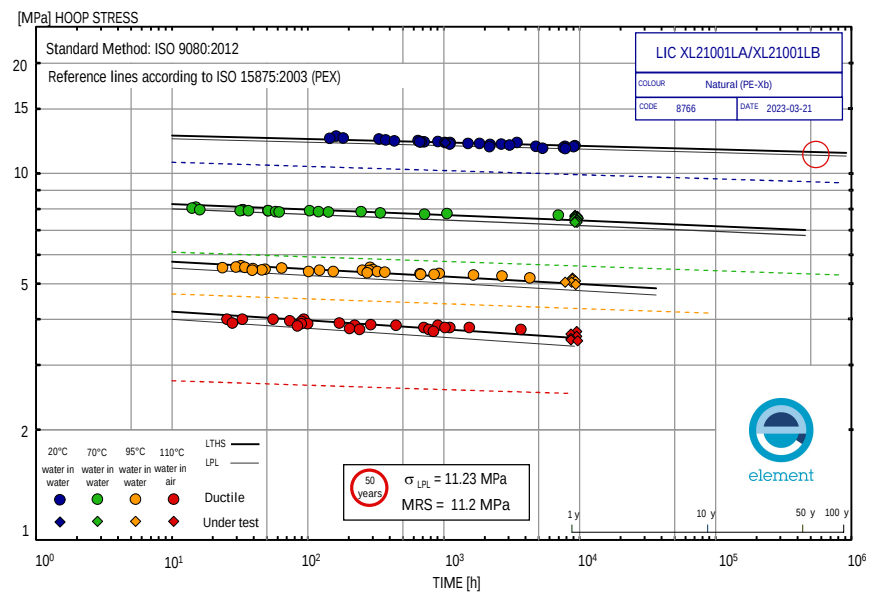


CLIENT: Weihai Lianqiao New Material Science & Technology CO., Ltd.  
REGRESSION ANALYSIS ACCORDING TO EN ISO 9080  
OF THE NATURAL PE-Xb PIPE GRADE  
XL21001LA/XL21001LB



## INTRODUCTION

The aim was to evaluate the pipe compound according to ISO 9080:2012, in order to obtain a MRS-classification according to ISO 12162:2009 of the natural PE-X pipe grade XL21001LA/XL21001LB from Weihai Lianqiao New Material Science & Technology CO., Ltd.

## CONFORMITY TO ISO GB/T 28799

The material shows conformity to the application classes as per below table and also to the reference lines as all sample are above those lines.

| CLASS<br>[ISO 10508]     | $\sigma_{LPL}$<br>[XL21001LA/<br>XL21001LB] | ISO 15875-2<br>[PE-X] | RESULT<br>[PASS/FAIL] |
|--------------------------|---------------------------------------------|-----------------------|-----------------------|
| 1                        | 4.81 MPa                                    | 3.85 MPa              | PASS                  |
| 2                        | 4.53 MPa                                    | 3.54 MPa              | PASS                  |
| 4                        | 4.76 MPa                                    | 4.00 MPa              | PASS                  |
| 5                        | 3.98 MPa                                    | 3.24 MPa              | PASS                  |
| Cold water <sup>3)</sup> | 8.99 MPa                                    | 7.60 MPa              | PASS                  |

## RESULTS MRS-CLASSIFICATION

The evaluation was performed in accordance with EN ISO 9080:2012. More information can be found in Element Report P-23-72-v1.

### EXTRAPOLATED STRENGTH VALUES

| T [°C] | TIME [Yrs] | $\sigma_{LPL}$ [MPa] | $\sigma_{LTHS}$ [MPa] |
|--------|------------|----------------------|-----------------------|
| 20°C   | 50.0       | 11.23                | 11.46                 |
| 20°C   | 100.0      | 11.39                | 11.15                 |
| 70°C   | 52.2       | 6.78                 | 7.01                  |
| 95°C   | 4.2        | 4.66                 | 4.86                  |
| 110°C  | 1.04       | 3.38                 | 3.56                  |

## CLASSIFICATION

MRS = 11.2 MPa

This only covers the EN ISO 9080-evaluation, MRS classification and material designation. Any additional requirements for PE-X 112 pipe compounds are given in the relevant product standards.