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Plastics piping systems — Glass-reinforced thermosetting plastics (GRP) pipes and fittings — Methods for regression analysis and their use — Amendment 1

Systèmes de canalisation en matières plastiques — Tubes et raccords plastiques thermodurcissables renforcés de verre (PRV) — Méthodes pour une analyse de régression et leurs utilisations — Amendement 1

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The committee responsible for this document is ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 6, *Reinforced plastics pipes and fittings for all applications*.

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Page 49, Annex D

Replace Annex D with the following:

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Annex D (informative)

Calculation of Lower Confidence and Lower Prediction Limits for Method A

D.1 Introduction

The calculation of confidence limits is not required by any of the ISO or CEN test methods or referring standards. However, the calculation of lower confidence limit (*LCL*) and lower prediction limit (*LPL*) is required by other standards (ASTM for example) using the same basic covariant analysis procedures of test data collected by similar test methods.

D.2 Calculation of Quantities and Variances

Calculate the quantity *B* using Equation (D.1):

$$B = -D \times X(1 + E) \tag{D.1}$$

Calculate the variance *A* of α using Equation (D.2):

$$A = D \left[X^2(1 + E) + Q_{xy} / b \right] \tag{D.2}$$

Calculate the variance σ_n^2 of the fitted line at x_L using Equation (D.3):

$$\sigma_n^2 = A + Bx_L + Cx_L^2 \tag{D.3}$$

Calculate the error variance σ_ϵ^2 using Equation (D.4):

$$\sigma_\epsilon^2 = 2\Gamma\sigma_\delta^2 \tag{D.4}$$

Calculate the total variance σ_y^2 for future values of y_L at x_L using Equation (D.5):

$$\sigma_y^2 = \sigma_n^2 + \sigma_\epsilon^2 \tag{D.5}$$

Calculate the estimated standard deviation σ_y for y_L using Equation (D.6):

$$\sigma_y = (\sigma_n^2 + \sigma_\epsilon^2)^{0.5} \tag{D.6}$$

D.3 Calculation of Confidence Intervals

Calculate the predicted value y_L for y at x_L using Equation (D.7):

$$y_L = a + bx_L \tag{D.7}$$

where *a* and *b* are as calculated by equations (D.8) and (D.9).