

ISO 14802:2012-07 (E)

Corrosion of metals and alloys - Guidelines for applying statistics to analysis of corrosion data

Contents		Page
Foreword		iv
1	Scope	1
2	Significanceanduse	1
3	Scatter of data	1
3.1	Distributions	1
3.2	Histograms	1
3.3	Normal distribution	2
3.4	Normal probability paper	2
3.5	Other probability paper	2
3.6	Unknown distribution	3
3.7	Extreme value analysis	3
3.8	Significantdigits	3
3.9	Propagation of variance	3
3.10	Mistakes	3
4	Central measures	3
4.1	Average	3
4.2	Median	4
4.3	Which to use	4
5	Variability measures	4
5.1	General	4
5.2	Variance	4
5.3	Standard deviation	5
5.4	Coefficientofvariation	5
5.5	Range	5
5.6	Precision	6
5.7	Bias	6
6	Statistical tests	6
6.1	Null hypothesis	6
6.2	Degrees of freedom	7
6.3	t-Test	7
6.4	F-test	8
6.5	Correlationcoefficient	8
6.6	Sign test	9
6.7	Outside count	9
7	Curvefitting--Methodofleastquares	9
7.1	Minimizing variance	9
7.2	Linear regression -- 2 variables	9
7.3	Polynomial regression	10
7.4	Multiple regression	10
8	Analysis of variance	11
8.1	Comparison of effects	11
8.2	The two-level factorial design	11

9	Extreme value statistics	11
9.1	Scope of this clause	11
9.2	Gumbel distribution and its probability paper	12
9.3	Estimation of distribution parameters	13
9.4	Report	15
9.5	Other topics	15
Annex A (informative) Sample calculations		46
Bibliography		60