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Autore	Crank, John
Titolo	The Mathematics of Diffusion
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Autore	Grous Ammar
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Lingua di pubblicazione	Inglese
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Nota di contenuto	Title Page; Contents; Preface; Glossary; Chapter 1. Quality Control; 1.1. Introduction to statistical process control; 1.2. Classical tolerancing and quality control; 1.2.1. ISO norms in quality control; 1.2.2. QS9000 approach; 1.2.3. Capabilities of CNOMO E41.36.110.N control means; 1.2.4. Some capability indicators according to ISO/TS 16949, ISO 8258 and Ford; 1.2.5. Metrological audits; 1.3. The Pareto law - ABC method;

1.3.1. Practical application; 1.3.2. Malfunction spread over 16 so-called "nevralgic" points; 1.4. Lot inspection by attributes
1.4.1. Areas on which lot inspection operates1.4.2. (np) chart for controlling the number of defects; 1.4.3. (c) card to control the number of defects; 1.4.4. Average lot quality after control; 1.4.5. Choosing a sample plan; 1.4.6. Wald plan case study; 1.4.7. Average long-term controlled quantity; 1.4.8. Case study of a simple sampling plan; 1.4.9. Poisson distribution of cumulative probabilities; 1.5. Theoretical basics of control by measurement; 1.5.1. Choosing a simple sampling plan; 1.5.2. Choosing a simple or double sampling plan; 1.6. Analysis of process capability
1.6.1. Capability indices for a normally distributed variable: X (,)
1.6.2. Machine capability Cm and Cmk; 1.7. Capability for a non-normal distribution; 1.8. Control by measurement charts; 1.8.1. Size of the samples to be taken and the frequency of control; 1.8.2. Factor for control of X (mean) and range (R); 1.9. Production and reception control; 1.9.1. Machine adaptation with respect to production tolerances; 1.9.2. Proportion of faulty units; 1.10. Control charts; 1.10.1. Control by measurements charts for the mean X and the range R; 1.10.2. Calculating control limits and case study
1.10.3. Study of X /R control charts - quality control lab1.10.4. Graphical representation of the rejections due to non-conformity to TI; 1.10.5. Performance case study: Capabilities; 1.10.6. Calculating machine capability indices: Cm and Cmk; 1.11. Conclusion; 1.12. Bibliography; Chapter 2. Quality Control Case Studies; 2.1. The tools of quality, as per W. Deming; 2.2. Failure modes, effects and criticality analysis; 2.3. Total productive maintenance method; 2.4. The LMMEM "5M" process method; 2.5. Estimations of times in mechanical productions (machining)
2.5.1. Optimizing times and costs in mechanical production2.6. Stock management and supply methods; 2.6.1. Hypothesis of a general method to improve stock management; 2.7. Short summary of control charts; 2.7.1. The various control charts; 2.7.2. Measurement control charts - stability control charts (Shewhart); 2.7.3. Estimating 0 and 0; 2.7.4. Efficiency - chart of the average; 2.7.5. Control chart by attributes - determining the limits; 2.8. CUSUM charts; 2.8.1. EWM charts; 2.8.2. Shewhart charts for the average X, the range R and the standard deviation (s)
2.8.3. Control charts for the average X and the range R

Sommario/riassunto

This third book of a 3-volume set on Fracture Mechanics adds a pragmatic and supportive character to the previous volumes by focusing on case studies using corrected exercises that teachers, students or engineers will find extremely useful. Due to the wide themes approached in this series, it can also be used to organize work in this field in a new way, as well as in the maintenance of industrial plants.Several cases of sampling plans and their applications in industry are presented, as well as several solved case studies on the main indicators of capability according to ISO/TS 16949,