



オンライン品質工学「検査設計」の複数工程への適用

—複数検査工程における検査設計の提案—

*Application of Inspection Design in Online Quality Engineering
to Multiple Processes*
—*Suggestion of Inspection Design to Multiple Inspection Processes*—

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A variety of components are handled in assembly processes performed on production lines, and many of those processes include a number of steps, each requiring quality assurance. Many inspections are therefore carried out, including inspections of semifinished products during the assembly process, inspection of finished products, and pre-shipment inspections. If even a small number of defective products are being passed to the next step or to the customer, production continues but an additional inspection is added to a step in which the defect can be reliably detected. As more and more inspections are added, they tend to overlap: multiple inspections are performed to detect the same type of defect. To reduce such unnecessary overlap, the present study proposes a method of reducing inspection costs and remedy costs by applying the inspection design techniques of online quality engineering not just to individual inspection steps but to the entire production line, comparing repeated inspection losses, noting what is being inspected, and making the inspection processes more efficient through thorough analysis, down to defect type.

Key words : components, assembly, multiple processes, multiple inspection processes, semifinished product, completed product, defective product, inspection design, online quality engineering

1. はじめに

多種多様な部品を組み立てる製造ラインは複数の工程で構成され各々の工程で品質を保証する考えの下で中間段階（半完成品）、完成品、出荷前と多く

の検査を実施していることが多い。

また、出荷先である社内の次工程、国内や海外の製品組立工場、世界中の製品エンドユーザに不良が流出すると、膨大な処置費用が発生するため、対策として更に検査項目を追加して、それをやめられずに継続実施している状況にあり、検査は増えて行く。

しかし、実際、各組立工程で実施する検査は、手段や方法は異なるものの同じ不良現象を検出できることが多く、結果的に無駄に検査項目が増えつつも、

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