



化学企業における材料の研究開発の現状分析

—企業の技術者はなぜ品質工学を使わないのか—

*An Analysis of R & D Management for Materials in a Chemical Company
—Why Engineers in Companies Don't Use Robust Quality Engineering—*

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In researching and developing materials, chemical companies make little use of robust quality engineering. Management, which wants to improve the efficiency of research and development, is dissatisfied that robust quality engineering is not being used as much as hoped. The present study on the dissemination of robust quality engineering was carried out to dispel this dissatisfaction and broaden the use of robust quality engineering methodologies among engineers. To find out why chemical engineers and research personnel do not use robust quality engineering, the situation at a particular company was analyzed. The analysis indicated limited involvement in screening at the early stages of research and development, but showed that the minority who do use robust quality engineering methodologies repeatedly have a high success rate, and that goal setting is a key factor. Engineers' behavior patterns were characterized by a lack of concern with speed, achievement, and underlying mechanisms. From a management viewpoint, increased involvement in goal setting, organization for early participation, and implantation of a self-motivated spirit of achievement are proposed as effective ways to encourage engineers and researchers to use robust quality engineering.

Key words : diffusion of innovations, R & D management, chemical company, robust quality engineering, Taguchi methods

1. はじめに

1.1 発表件数が少ない

品質工学は上流から適用するのが効果的であると言われている。しかし、上流である研究開発における適用事例の発表は少ない。化学の分野においても

上流に位置付けされる配合や処方の検討を必要とする材料開発への適用事例は少ない。品質工学研究発表大会において2007年から2010年の4年間で全発表数510件中の21件の4%程度が配合や処方の検討を必要とする材料開発であった。この中には、研究開発の段階でない発表や化学ではない分野の発表も含んでいるのかかわらず4%とは少ない件数と考える。発表件数の少ない理由には次の2つが考え

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