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FUNCTIONAL INTEGRATION IN TECHNICAL PARTS

POVZETEK PREDAVANJA

Osnovno načelo integralnega oblikovanja je kombinacija funkcionalnosti več posameznih elementov samo v enem samem plastičnem izdelku. Integracija funkcij služi znižanju stroškov, s pomočjo zmanjšanja števila komponent, ter zniža stroške in zmanjša vložke za obdelavo plastičnih kosov, logistiko in sestavo. Integracija funkcij zajema področja dekoracije, elektronike, modifikacij materialov, površinske modifikacije, sestave itd. Za te namene je najpogostejše uporabljena tehnologija brizganja plastike. Predavanje podaja kratek splošen uvod o integraciji funkcij, nakar sledijo praktični primeri iz industrijske uporabe.

SUMMARY OF THE LECTURE

Basic principle of integral design is the combination of the functionalities of several single elements in only one single part. The integration of functions serves cutting the costs through reduction of the number of components and decrease of the efforts for parts processing, logistics and assembly operations. Functional integration covers the fields of decoration, electronics, materials modification, surface modification, assembly etc. For these purposes the most used processing technology is injection moulding. The talk gives a short introduction about functional integration in general and afterwards an overview about several applications from industry.

O PREDAVATELJU

Prof. dr. Frank Ehrig je zagovarjal svojo doktorsko disertacijo na Inštitutu za predelavo plastike (Institute of Plastics Processing - IKV), Univerzi v Aachnu v Nemčiji (University of Aachen), pod mentorstvom prof. dr. Walter Michaelia. Na IKV je ostal še dve leti kot vodja oddelka za brizganje in poliuretan. Leta 2000 se je zaposlil v Weidmann Plastics Technology AG v Švici, kot direktor tehničnega inženirstva za avtomobilsko divizijo. Leta 2005 je prof. Ehrig izkoristil priložnost za ustanovitev in izgradnjo novega inštituta na Univerzi uporabnih znanosti Rapperswil (University of Applied Science Rapperswil - HSR). Inštitut, imenovan Inštitut za materialno znanost in obdelavo plastike (Institute of Material Science and Plastics Processing - IWK), se v glavnem osredotoča na raziskovalne in razvojne dejavnosti pri kompavndiranju, oblikovanju izdelkov, izdelavi lahkih konstrukcij in tehnologij predelave. Na inštitutu je trenutno 31 zaposlenih.

ABOUT THE LECTURER

Prof. Dr. Frank Ehrig worked out his doctor thesis at the Institute of Plastics Processing (IKV), University of Aachen, Germany, Prof. Dr. Walter Michaeli. Afterwards he stayed at IKV for additional two years as department leader injection moulding and polyurethane. In 2000 he went to Weidmann Plastics Technology AG, Switzerland, and became Director Technical Engineering for the Automotive Division. In 2005 Prof. Ehrig took the chance to found and build up a new Institute at the University of Applied Science Rapperswil (HSR). The institute called Institute of Material Science and Plastics Processing (IWK) is mainly focussed on R&D activities in compounding, part design, light weight construction and processing technologies. Today the institute consists of 31 employees.