

การออกแบบและผลิตชิ้นส่วนทดแทนสำหรับรถไฟ

Design and manufacturing of replacement parts for railway applications

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Collaborative agency	S.R.T Electrified Train Co., Ltd. Thai Carbon & Graphite Co., Ltd.	
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Project leader	Ruangdaj Tongsri	
Co-researchers	Dhriti Tanprayoon	Thanyaporn Yotkaew
	Nattaya Tosangthum	Pongsak Wila
	Bhanu Vetayanugul	Monnapas Morakotjinda
	Yhotsawat Settakulsit	Rungtip Krataitong
	Amornsak Rengsomboon	Ussadawut Patakham

The development of transportation networks connecting domestic and international destinations is one of the prime strategies for the whole country's development. The development of modern rail transport networks has been being carried out. Although the modern rail transport networks development relies mostly on imported technology in the initial stage, later repair and maintenance activities rely hugely on replacement parts. There are various replacement parts that can be developed domestically based on in-house technologies. The research and development for manufacturing replacement parts will lead to innovation, which in turn affects replacement parts manufacturing and maintenance in the future. This project set consists of 3 sub-projects including (1) design and fabrication of solid lubricant sticks for rails, (2) development of carbon strip of pantograph for electrical trains, and (3) development of brake pads from sintered self-lubricating composites. These sub-projects employ the same core manufacturing technology, e.g., particulate materials forming and sintering. However, the processing characters for each replacement part are different. The optimized processes need research and development. The effects of processing parameters on physical, mechanical, tribological and other properties will be explored. Tests at laboratory and/or field levels will be conducted so prototypes with properties according to a suitable annex of corresponding international standards are achieved. This will lead to

domestic development of technology for design and manufacturing of replacement parts for rails in the future.