PBF-LB/M Manufactured Hydrogen Gas Burner of Pure Copper

Motivation and Relevance

- Necessary change from natural gas to hydrogen in hard-to-electrify sectors (e.g. steel) needs specialized burners
- Relevant for burner manufacturers and new material suppliers

Approach

- Pure copper powder from processed in commercial PBF-LB/M machine
- Parametric burner design for easy optimization
- Design adaption for the combustion of hydrogen

Results

- Pure copper enables high thermal conductivity for use in high-temperature environment
- AM enables design optimization for an optimized flame behavior → higher efficiency, lower emissions, better safety

Research Area

- Hydrogen, gas burner, PBF-LB/M of pure copper

Partners

SMS group

SCHLENK

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Picture

Contact

dap

Johannes Willkomm
Johannes.willkomm@dap.rwth-Aachen.de
www.dap-aachen.de

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