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Deliverable 1.2

Database with material data of dissimilar metals and polymer material used in the project

Project Acronym	DISCO2030
Project Full Title	Combining DISSimilar materials into functional large-scale and light-weight COmponents and structures
Call Identifier	HORIZON-CL4-2022-RESILIENCE-01
Type of Action	HORIZON-RIA
Start Date	1 st of December 2022
End Date	30 th of November 2025
Grant Agreement No	101091860



Funded by
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This project has received funding from the European Union's Horizon Europe research and innovation programme. This presentation reflects only the author's view and that the European Commission is not responsible for any use that may be made of the information it contains.

WP	WP1: Baseline & Specify
Due Date	M20 (31 July 2024)
Submission Date	26 July 2024
Responsible Partner	TUM
Version	1
Status	Submitted
Author(s)	Emre Osmanoglu
Reviewers(s)	TUM MAT
Deliverable Type	Data
Dissemination Level	Public

Revision	Date	Author/Organization	Description
1 st	25.07.2024	Emre Osmanoglu	Final version
2 nd	-	-	-
3 rd	-	-	-

Statement of originality

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgment of previously published material and of the work of others has been made through appropriate citation, quotation, or both.

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1. Introduction

Deliverable 1.2 is about the database of the materials used in the project, both metal and polymers. These materials are used for scientific experiments and demonstrator parts to build structures out of dissimilar materials. A database is created for the materials used in the project. The database is publicly available in MediaTUM.

2. Preparation

The information in the database is curated from the inputs of the partners LKR, Oerlikon, TUM LCC and TUM MAT. The file titled “DISCO2030_D1-2_Metals” contains information on the metal powders and wires used in the project. There is information on the chemical compositions and powder size where applicable. The information on metals is provided by LKR, Oerlikon and TUM MAT. The materials mentioned in this file are used in the experiments and manufacturing of the demonstrator parts.

The file titled “DISCO2030_D1-2_Polymers” is a table which shows the tape matrix polymer and adhesion promoter combinations used in the experiments of TUM LCC.

The files starting with “Hardness” and “Tensile” are the hardness measurements and tensile test results, respectively. These tests are conducted by LKR on the samples manufactured by wire directed energy deposition made of aluminum 5183.

3. Dissemination

The database is uploaded to MediaTUM. The storage is public, and the data stored there complies with FAIR standards and includes BibTeX for accessibility for machines. The database can be found in the following link.

https://mediatum.ub.tum.de/1524176?show_id=1749132