

Objective:

- mixture of reference MgO-C with graphite NFL

Experimental setup:

- Weighing with [Device - PT 1200 Sartorius \(PrecisionBalance\)](#) and [Device - QS 16000B Sartorius \(PrecisionBalance\)](#)
- Mixing with [Device - ToniMIX L \(MortarMixer\)](#)
- Mixture:

Raw Material	Note	MgO-C_NFL
		(wt.-%)
MgO 2-4 mm (fused)	Fused MgO 98 grade	17.0
MgO 1-2 mm (fused)	Fused MgO 98 grade	29.7
MgO 0-1 mm (fused)	Fused MgO 98 grade	34.3
MgO powder	Sintered MgO 97 grade	16.8
Graphite NFL	-	1.1
Carbon black N991	-	1.1
Powder resin 0235 DP	Binder, based on 100 wt.-% raw materials	1.5
Liquid resin 9308-FL	Binder, based on 100 wt.-% raw materials	1.5
Hexamethylenetetramine	Hardener, based on 100 wt.-% raw materials	0.3

Procedure:

As the first mixing step, the coarse MgO fractions were premixed for 3 min. Afterwards, the liquid resin 9308-FL, which was heated up to 70 °C in a temperature control unit was added and mixed for another 2 min. As the last step in the mixing process, MgO powder, graphite NFL, carbon black Thermax N991, powder resin 0235 DP, and hexamethylenetetramine were added and mixed for another 5 min to achieve a homogeneous distribution of the raw materials in the mixture.

Results:

Mixture for further processing.

elabExperiment Metadata - Contextualize data (storage structure, formats, and how the stored data correspond to experimental activities)

Format

Format of the generated raw, (processing) meta, processed and result data

XLSX; The data are stored in four subfolders: 0_Documentation/ (additional documentation) 1_RawData/ (direct experimental output), 2_ProcessedData/ (data derived from raw), and 3_EssentialData/ (features derived from processed). The table of the mixture is included in the Documentation folder.

Coverage

Fraction/part of the experiment contained in the generated raw and result data

This experiment did not generate direct raw measurement data.

Description

Brief description to understand and navigate the generated raw, processed, meta and result data of the conducted experiment

Mixing of raw materials (MgO and carbon) to gain material for pressing

Contributors

Persons who contributed to data generation (forename name; forename name; etc.)

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Linked resources

Device - [PT 1200 Sartorius \(PrecisionBalance\)](#)

Device - [QS 16000B Sartorius \(PrecisionBalance\)](#)

Device - [ToniMIX L \(MortarMixer\)](#)



Unique eLabID: 20260803-e1e05bc7c488c5815fd7965659f92174b9dfd41b
Link: <http://elabftw.chemie.tu-freiberg.de/experiments.php?mode=view&id=6239>