FACT SHEET to the research project ANISO-RM

SHORT TITLE / ACRONYM

ANISO-RM

LONG TITLE

Modelling ANISOTROPY of Rock Masses with special focus on Phyllite/Schist

DESCRIPTION

The review of experimental data concentrates on phyllites and schist taking into account laboratory and in situ data-bases from recent base-tunnel projects in the execution phase.

The various deformation modes are discussed depending on the stress level and the specific discontinuity characteristic. The focus is on anisotropic ground behavior with the specific macro structure due to stratification, schistosity or foliation. The main research activity is the application and comparison of individual constitutive laws described in the context of con-tinuum and discontinuum mechanics.

The research goal is to identify existing gaps in modelling anisotropy of schistose or foliated rock masses and to outline strategies to overcome the main shortcomings in the devel-opment of future constitutive laws.

Another focus will be laid upon the calibration of the pro-posed constitutive models with the aid of artificially created rock samples of weak rocks to get rid of any undesired influ-ences of natural material inhomogeneities. Manually manu-factured samples, as well as 3D-printed samples will both be part of investigations with respect to the suitability of artificial materials for the imitation of weak rocks.

PROJECT COORDINATOR

Univ.-Prof. Dipl.-Ing. Dr.-Ing. Thomas Marcher
Graz University of Technology
Institute of Rock Mechanics and Tunnelling
thomas.marcher@tugraz.at
+43 316 873 8114

CONTRIBUTORS

MSc Manuel Bernhard Winkler
Graz University of Technology
Institute of Rock Mechanics and Tunnelling

INSTITUTE OF ROCK MECHANICS AND TUNNELLING

DEPARTMENT HEAD

Univ.-Prof. Dipl.-Ing. Dr.-Ing.
Thomas Marcher

CONTACT

Institute of
Rock Mechanics and Tunnelling

Graz University of Technology

Rechbauerstraße 12
8010 Graz, Austria

tunnel@tugraz.at
www.tunnel.tugraz.at

Tel.: +43 316 873 8114
Fax. +43 316 873 8618

RELATED PUBLICATIONS

YEAR	AUTHOR(S)	PUBLICATION TITLE
2020	Winkler, Marcher	Different aspects of modelling elasticity and strength of anisotropic rocks. Submitted to: ISRM International Symposium EUROCK 2020

RELATED MASTER'S THESES

YEAR	AUTHOR	WORKING TITLE
2019	Iškin	Employment of different anisotropic constitutive relations for BBT database evaluation *still in progress*