

# Competition Rules: Design a Mathematical Model for a Viscometer Measuring Corium

## 1. Competition Organizer

Centrum výzkumu Řež s.r.o.

registered office: Hlavní 130, Řež, 250 68 Husinec

ID No.: 26722445

Registered in the Commercial Register maintained by the Municipal Court in Prague,  
Section C, Entry 89598

Contact person: Mgr. Bence Mészáros

E-mail: bence.meszaros@cvrez.cz

## 2. Purpose, Description, and Legal Nature of the Competition

The goal of the competition is to develop a mathematical model to be used in a real device designed to measure the viscosity of materials at high temperatures.

The competition is of a type defined by the Civil Code (Sec. 2884 and following).

## 3. Competition Task

An experimental device has been designed and built for measuring viscosity at temperatures above 2000 °C. It measures the damping of rotational oscillations of a crucible containing the test material. Participants are tasked with creating a mathematical model based on the data provided by the organizers, obtained from measurements of materials with known viscosity. The submitted model must then be capable of determining the viscosity of an unknown sample using the supplied data.

## 4. Competition Participants

The competition is open to university students who are at least 18 years old.

## 5. Competition Timeline

**Announcement: July 1, 2025**

**Registration: July 1 – September 16, 2025**

**Introductory Meeting & Task Release: September 18, 2025**

**Submission Deadline: November 18, 2025**

**Results Announcement & Excursion: November 27, 2025**



### COMPANY

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Czech Republic



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## 6. Competition Registration

Registration is conducted electronically via an online [form](#).

By registering, participants confirm their agreement with the competition terms and conditions, and with GDPR regulations.

## 7. Evaluation and Selection of Winners

Submitted solutions will be reviewed by designated staff of the Research Centre Řež s.r.o. Winners will be selected based on the following criteria:

- a) Accuracy of the viscosity estimation of the unknown sample
- b) Low uncertainty in the proposed solution

If multiple submissions have identical results, the winning solution will be the one received earlier at the designated contact email address.

The results will be announced in person on November 27, 2025, at the premises of the Research Centre Řež (CVŘ), and the announcement will include a guided excursion. Results will also be sent to the participants' registration email addresses.

## 8. Rewards

- The winning solution will be awarded 25,000 CZK based on an agreement to complete a job, subject to a 15% withholding tax.
- The author of the winning solution has the right to be credited as co-author of any scientific paper, if the solution is used in its publication.
- All registered participants will be offered an excursion to research facilities located in the ÚJV complex, scheduled on a specified date.

## 9. Copyright and Licensing

Legal relationships arising from the protection of intellectual property created in connection with solving the competition task (hereinafter referred to as “intellectual property”) are governed by the generally binding legal regulations of the Czech Republic, particularly Act No. 527/1990 Coll., on Inventions and Improvement Proposals; Act No. 207/2000 Coll., on the Protection of Industrial Designs; Act No. 478/1992 Coll., on Utility Models; Act No. 221/2006 Coll., on Enforcement of Industrial Property Rights and Amendments to Related Acts; Act No. 206/2000 Coll., on the Protection of Biotechnological Inventions; Act No. 441/2003 Coll., on Trademarks; and Act No. 121/2000 Coll., the Copyright Act.



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Intellectual property primarily refers to intangible assets, including works protected under copyright law and related rights, as well as items subject to industrial legal protection—namely technical solutions (such as patents, utility models, or semiconductor topographies), industrial designs and artwork (industrial patterns), product and service identifiers (trademarks, designations of origin, geographical indications, and business names), and, above all, trade secrets and know-how (encompassing written and unwritten production, commercial, and other forms of expertise).

By registering for the competition, participants agree to enter into a non-exclusive, royalty-free license agreement with the organizer, granting unlimited rights to use their work in all forms and scopes—without restriction as to quantity, location, or duration—with respect to any intellectual property they create, even partially, in connection with solving the competition task. This includes any possible modifications, combinations, or other adaptations of the submitted solution.

## 10. Personal Data Protection (GDPR)

- By entering the competition, participants agree to sign a consent form with the organizer regarding the processing of personal data.
- Personal data are processed for the purposes of organizing and evaluating the competition, communicating with participants, distributing prizes, presenting competition results, and scientific publication.
- The following data may be processed: name, surname, email address, phone number, name of university and study program, photographs and video recordings taken during the competition.
- Personal data will be retained for the duration of the competition and for 12 months following its conclusion.
- Data may be made accessible only to the competition organizers, expert jury, and technical partners responsible for operating the competition. Personal data will not be transferred outside the EU.

### Participants Rights as Data Subject:

- To obtain confirmation whether their personal data are being processed and, if so, to access such data and information about their processing (purpose, categories of data, recipients, retention period, etc.).
- To request the correction of inaccurate data or the completion of incomplete data.



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- To request the erasure of personal data, for example, when the data are no longer necessary, consent has been withdrawn and no other legal grounds for processing exist, or the data were processed unlawfully.
- To request that the controller temporarily restrict the processing of personal data, for example, if the accuracy or the legitimacy of the processing is being challenged.
- To obtain one's personal data in a structured, commonly used, and machine-readable format and to transfer them to another data controller (e.g., when switching service providers).
- To object at any time to the processing of personal data based on the controller's legitimate interest or for direct marketing purposes.
- To not be subject to decisions based solely on automated processing, if such decisions would have legal or similarly significant effects on them.
- To withdraw consent at any time.
- To file a complaint with the Office for Personal Data Protection.

## 12. Rights and Obligations of Participants

Participants must comply with the competition rules. In case of a breach, they may be disqualified.

## 13. Rights and Obligations of Organizers

- Organizers have the right to change the competition rules during the course of the event.
- Organizers are obliged to promptly inform participants of any such changes via their registration email addresses.
- Organizers have the right to cancel the competition, even without serious cause, particularly if no participants register or if none of the submitted solutions sufficiently meet the evaluation criteria.



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