TECHNICKÁ UNIVERZITA V LIBERCI

Nové možnosti rozvoje vzdělávání na Technické univerzitě v Liberci

Specifický cíl A2: Rozvoj v oblasti distanční výuky, online výuky a blended learning

NPO_TUL_MSMT-16598/2022

Creation of cross-sections with discontinuous textile formations

Ing. Bc. Monika Vyšanská, PhD.

Financováno Evropskou unií NextGenerationEU

Národní plán obnovy

MINISTERSTVO ŠKOLSTVÍ, MLÁDEŽE A TĚLOVÝCHOVY

Assignment:

1. Familiarize yourself with the internal standard IN 46-108-01/01 Recommended procedure for creating cross-sections. Soft and hard cross-sections.
2. According to the procedure in chapter 7 of IN 46-108-01/01, prepare the submitted fabrics for subsequent cutting.
3. After three days of preparation, make the cross-sections with the submitted length and area fabrics.
4. Immediately scan the prepared cross-sections through the microscope into the NIS Elements image analysis system.

The tools:

- dispersion glue, quick wetting agent, fixed fabric holder, special tubes, adhesive tape, paraffin/wax mixture, razor blade, microtome, steel knife, refrigerator, microscope slide, laboratory needle, xylene, microscope, NIS Elements image analysis

Continuity:

- Microscopy - practice from TVL - KTM

Source of information:

- EXA - KTT lectures
- IN 46-108-01/01 Recommended procedure for creating cross-sections. Soft and hard cross-sections.

The principle and procedure of work:

The principle and procedure for the creation of soft cross-sections is discussed in detail in the internal standard IN 46-108-01/01 Recommended procedure for the creation of cross-sections. **This standard is annexed to this practice manual.**

Cross-sections are placed with a laboratory needle on a microscope slide with a prepared drop of xylene. The coverslip is not used in this microscopy to avoid deformation of the sections. This is followed by the actual scanning of the sections in **NIS Elements image analysis**:

1. At the lowest magnification find the cross-sections, for actual capturing it is recommended to use 20x lens magnification.
2. Use the lever on the eyepiece head to redirect the light beams from the eyepiece to the camera - you will see the object under the microscope directly on the monitor in the image analysis environment.
3. If you are not satisfied with the image you see, you can adjust it in Capture - Camera Settings...
4. Press the "-" key to freeze the image on the monitor, then you can save it.
5. If you need to see a live image, use the "+" key.
6. Before saving the image, DO NOT FORGET TO CALIBRATE IT - under Calibration, activate the lens you are using to take the image of your slide. This will calibrate your image.