**Name of the scientific laboratory: Laboratory “Structural analysis of materials”**

1. **Objectives of the scientific laboratory: Conducting microstructural analysis, preparation of microsections.**
2. **List of laboratory equipment:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **№** | **Equipment Name** | **Brief Equipment Description** | **Tasks Performed on the Equipment** | **Year of Manufacture** | **Certification (yes/no)** | **Verification Date** | **Equipment Notes** |
|  | Optical Emission Spectrometer | **Spectral range from 177 nm to 408 nm;**  **Emitted spectral interval no more than 0.04 nm;**  **Detection limit of phosphorus mass fraction in steel no more than 0.001%.** | Analysis of the chemical composition of metals | **2016** | **no** | **from 27.10.2016** | **no** |
|  | Metallographic Microscope | **Microscope magnification – 50-1000**  **Objective magnifications – 10, 20, 40, and 100 times**  **Eyepiece magnification – 10, 5**  **Range of movement of the stage – 75\*50 mm** | Visual observation and photography of the microstructure of metals and alloys | **2010** | **no** | **-** | **no** |
|  | Derivatograph | **Temperature range: at room temperature up to 1150 ℃, can be increased to ~ 1350 ℃.**  **Temperature fluctuations: plus or minus 0.1 ℃.**  **Heating rate: 1 ~ 80 ℃/min.**  **Temperature control mode: temperature, constant temperature, cooling.**  **Constant temperature time: 0 ~ 300 min, set arbitrarily** | Conducting thermal analysis of materials | **2023** | **no** | **2023** | **no** |
|  | Laboratory Electronic Scales | **Discreteness – 0.0001 g**  **Reproducibility – 0.0001**  **Linearity - ±0.0002**  **Settling time 3-5 seconds** | Accurate determination of the mass of samples | **2013** | **no** | **until 01.10.2013** | **no** |
|  | Grinding Machine | **Number of discs (tapes) 2**  **Grinding disc diameter, mm 230**  **Constant speed, rpm 450**  **Cooling system Yes**  **Constant rotation speed**  **Type of machine by purpose grinding**  **Type of machine by design manual, disc**  **Location of the machine tabletop**  **Power type 220V**  **Dimensions 690 × 720 × 310 mm**  **Weight 40 kg** | Preparation of microslides for further analysis | **2021** | **no** | **Until December 2021** | **no** |

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