



STEM for inclusive Schools

WP2 – Activities

Worksheet – Cutting Tools Wearing

Engineering (*August 2024*)

„Dunărea de Jos” University of Galați

Project Title: STEM for inclusive Schools

Acronym: STEMInSCH

Reference number: KA220-NW-23-30-151162

Project partners:

- P1 University Paderborn (UPB), DE
- P2 Universitatea Dunarea de Jos din Galati (UDG), RO
- P3 Scoala Gimnaziala Nr. 7 Galati, RO
- P4 Siec Badawcza Lukasiewicz - Instytut Technologii Eksploatacji, PL
- P5 Inovatif ve Girisimci Toplum Dernegi, TR
- P6 Sucessos Criativos, Lda, PT



Worksheet for the Activity:

Cutting Tools Wearing

name of the activity

Task description: Students will learn about the different types of wear that occur in machining operations.

Time to finish the task: 2 hours

Supplies:



Used cutting inserts with visible wear.

Video measurement system for wear identification and measurement.

Method:



Identifying different types of wear and measuring specific wear criteria.



Instructions:

- 1. The reasons for the occurrence of cutting tool wear are presented.**
- 2. The types of wear that can occur are presented.**
- 3. The wear mechanisms are explained.**
- 4. The criteria used for quantitative wear are presented.**
- 5. The Sinowon type video measurement system is presented.**
- 6. The method of measuring dimensions in the xOy plane and along the z-axis direction is explained.**
- 7. The wear on the seating face of a cutting insert is measured (vB criterion).**
- 8. The position (KS) and depth (KT) of the crater on the clearance face of the cutting insert are measured.**
- 9. The wear criterion K is calculated, using the formula $K=KT/KS$.**

Your Group name:



Write the names of your group members in the box:





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Graphics and Tables:

Fill in the observation table 1:



Insert type	KT Value	KS Value	Wearing criteria K
1.			
2.			
3.			
4.			