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| **ABSTRACT** |
| This study aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa. This study aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa. aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa (**abstract must be 200- 250 words**). |
| ***Keywords:*** *Drilling, Taguchi method, Coated tool, ANN, Powder metallurgy, Additive manufacturing* |
| **Makale Başlığı** |
| **ÖZET** |
| Bu çalışma aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa. Bu çalışma aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa. aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa **(özet 200-250 kelime arasında olmalıdır.)** |
| ***Anahtar Kelimeler****: Delme, Taguchi yöntemi, Kaplamalı takım, YSA, Toz metalurjisi, Eklemeli imalat* |

**1. INTRODUCTION (There should be a single line space before first-level headings and a 6 pt space after the headings.)**

(**Paragraph texts should be written in single-line format, with no spaces before or after the paragraph.)** In the manufacture of machine parts from metal materials [1] , aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa [2].

In cold work tool steels, aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa.

Korkmaz vd., aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa.

**2. MATERIAL AND METHOD**

**2.1. Experimental Setup**

In this study, AISI D3 (DIN 1.2080) cold workd tool steel aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa [3].



Figure 1. CNC lathe and experimental equipment **(The figure caption should be centered, written in 10 pt font size, and have a 6 pt space before it. A single line space should be left before the figure and after the figure caption.)**

Aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa.aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaaaaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaaaaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa [4].

Table 1. Technical characteristics of SJ-210 brand surface roughness device **(Do not use vertical lines in tables. The table caption should be centered, written in 10 pt font size, and followed by a 6 pt space. A single line space should be left before the table caption and after the table. The content within the table should be in 10 pt font size.)**

|  |  |
| --- | --- |
| **Cutting head** | 2 μm |
| **Driver unit speed** | 0.25-0.5-0.75 mm/s |
| **Measurement force** | 0.75 mN |
| **Measurement distance (*Z*)** | 360 μm (-200μm ile +160μm) |
| **Measurement length (*L*)** | 0.08-0.25-0.8- 2.5-8 mm |

**2.2.** **Second-Level Subheading (A single line space should be left before second- and third-level subheadings, and a 6 pt space should be left after the subheadings.)**

Aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa.

Aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa [5].

**2.2.1. Third-Level Subheading I**

Aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa.

Aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa.

**2.2.2. Third-Level Subheading II**

Aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa [6].

Aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa.

Aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa.aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa. Aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa.aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa.aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa.aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa.

**3.** **EXPERIMENT AND OPTIMIZATION RESULTS**

Aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa.

Aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa [7].

Aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa. Aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa.



Figure 2. (S/N ratio plot for average surface roughness [6].

Aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa.

Aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa.

**Table 2. ANOVA results for surface roughness**.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Parameter** | **DF** | **SS** | **MS** | **F** | **P** | **PCR***(%)* |
| **A** | 1 | 19.301  | 19.301  | 24.95  | 0.000 | 4.94 |
| **B** | 2 | 52.367  | 26.183  | 33.84  | 0.000 | 13.54 |
| **C** | 2 | 294.369  | 147.184  | 190.25  | 0.002 | 78.02 |
| **Error** | 12 | 9.284  | 0.774  |   |   | 3.5 |
| **Total** | 17 | 375.32  |   |   |   | 100 |

Aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa.

As it seen in Figure 1a) and 1b), aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa. Aaaaa aaaaa given in Eq.1: (Formulas must be written using MathType or Microsoft Equation Editor. Leave one blank line before and after the formula.)

x$=\frac{-b\pm \sqrt{b^{2}-4ac}}{2a} $ (1)

Aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa (Eş.2).

$\cos(α)+\cos(β)=2\cos(\frac{1}{2}\left(α+β\right))\cos(\frac{1}{2}\left(α-β\right))$ (2)

Aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa.

In Table 2, aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa. Aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa.

**4. CONCLUSIONS**

Aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa aaaaa [5].

**ACKNOWLEDGMENT**

(If the study has been supported by a research institution or funding body, the name of the institution/organization and the project number should be stated before the References section) This study was supported by Karabük University Scientific Research Projects (Proje no: 2020.KBU.99.001).

**REFERENCES**

References within the text should be provided in square parenthesis. The references listed in the References section must follow the formats given below and be written in 10-point font size.

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**REFERENCE FORMATTING**

*Journal Article:* Initial of the author's first name(.) Last name, Full title of the article, Journal Name or International Abbreviation, volume (issue) year page numbers.

M. Günay, I. Korkut, E. Aslan, U. Şeker, Experimental investigation of the effect of cutting tool rake angle on main cutting force, J Mater Process Technol 166 (2005) 44–49. https://doi.org/10.1016/j.jmatprotec.2004.07.092

*Book:* Initial of the author's first name(.) Last name, Book Title, Publisher name, Place of publication, year.

E.M. Trent, Metal Cutting, Butterworth-Heinemann, Valencia, 2016.

*Book Chapter:* Initial of the chapter author's first name(.) Last name, Chapter title, editor(s) (if available), Book Title, Publisher name, Place of publication, year.

D. Ulutan, T. Özel, Hard machining, in: M. Koç, T. Özel (Eds.), Modern Manufacturing Processes, 6th ed., John Wiley & Sons, Inc, New York, 2019.

*Conference Paper:* Initial of the author's first name(.) Last name, Title of the paper, Name of the conference, location of the conference, year: page numbers.

A. Parlak, R. Kaçar, H.Ertek Emre, Adjoining of AA6033 Aluminum-AH36 Grade steel coupling with robotic GMAK method using transition plate, in: 4th International Conference on Engineering Technology and Applied Sciences, Kiev, 2019: pp. 122–142.

*Standart-Patent:* Standard number, name of the standard, place of publication, year.

ASTM E8, Standard test methods for tension testing of metallic materials, 2004.

*Thesis:* Initial of the author's first name(.) Last name, Title of the thesis, Type (Master’s thesis, Doctoral dissertation), University and iNstitute, year.

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*Online Resources:*Author(s) or Responsible Institution, Title of the publication, URL, access date.

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