

# NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR

DEPARTMENT OF Metallurgical & Materials Engineering

## REPORT

TITLE High stress abrasive wear behaviour  
upto a sliding distance of 50m

Name Deep Narayan  
Semester 7th Roll No. 20MM8051  
Section - Year 4th (2023)  
Signature Deep  
Date of Experiment 28/8/2023

Title:

- High stress abrasive wear behaviour upto a sliding distance of 50 m (800 cycles)

Aim:

- Study of high stress abrasive wear behaviour of steels

Theory:

- As discussed previously

Procedure

- As discussed previously

Observation:

- Initial weight = 71.7313 gm

- Final weight = 71.7139 gm

- Weight loss = 0.0174 gm

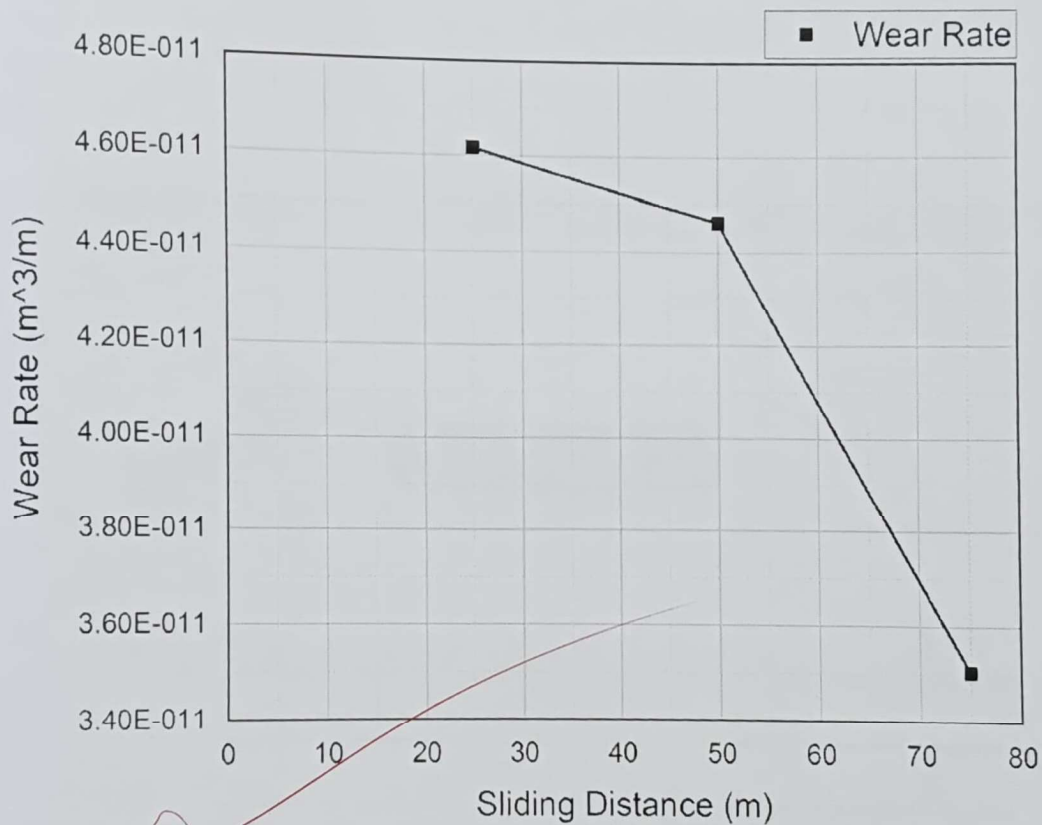
- wear rate =  $\frac{\text{Volume loss}}{\text{Sliding distance}} = \frac{0.0174 \text{ gm}}{\rho_{\text{steel}} \times 50 \text{ m}}$

$$= \frac{0.0174 \text{ gm}}{7.89 \text{ gm/cm}^3 \times 50 \text{ m}}$$

$$= 4.46 \times 10^{-5} \text{ cm}^3/\text{m}$$

$$= 4.46 \times 10^{-11} \text{ m}^3/\text{m}$$

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**ENGINEERING**



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**ROLL NUMBER: 20MM8051**

**REGISTRATION NUMBER: 20U10719**

**DATE OF EXPERIMENT: 28-08-2023**

**DATE OF SUBMISSION: 04-09-2023**

**GROUP: B3**