NATIONAL INSTITUTE OF TECHNOLOGY DURGAPUR

DEPARTMENT OF Metallurgical & Materials Engineering

REPORT

TITLE Pin-on-disk wear behaviour study at 20N load

Name Deep Narayan

Semester 7th Roll No. 20MM8051

Section - Year 4th (2023)

Signature Deep

Date of Experiment 7/8/2023

Experiment - 1

(*) Title:

→ Pin-on-disk wear behaviour study at 20N load

(*) Aim:

→ To study pin-on-disk wear behaviour at 20N load, calculate the wear rate and plot cumulative wear vs sliding distance and coefficient of friction vs sliding distance graphs

(*) Theory:

→ As discussed in Experiment - 3

(*) Procedure:

→ As discussed in Experiment - 3

(*) Observation:

→ P.T.O.: →

Date 7/8/2023

Signature

Title:

~~Pin-on-disk wear behaviour study at 20N~~

Observation:

Sl. No.	Wear (micro meter)	Frictional Force (N)	Time (min)	Sliding distance (m)	Coeff. of friction
1	12	7.3	0.5	31.4	0.365
2	23	8.5	1	62.8	0.425
3	31	7.8	1.5	94.2	0.39
4	41	7.1	2	125.6	0.355
5	47	8	2.5	157	0.4
6	50	10.1	3	188.4	0.505
7	59	5.6	3.5	219.8	0.28
8	63	6	4	251.2	0.3
9	64	10.3	4.5	282.6	0.515
10	72	6.1	5	314	0.305
11	73	10.4	5.5	345.4	0.52
12	81	9.2	6	376.8	0.46
13	87	10.1	6.5	408.2	0.505
14	90	10.7	7	439.6	0.535
15	98	9.5	7.5	471	0.475
16	103	9.4	8	502.4	0.47
17	110	9.4	8.5	533.8	0.47
18	117	10.8	9	565.2	0.54
19	126	8	9.5	596.6	0.4
20	131	9.2	10	628	0.46

Date 7/8/2023

Signature

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	Wear(micro meter)	Frictional force	Time(min.)	Sliding distance (m)	Coeff. of friction
07-08-2023					
Load = 20 N	12	7.3	0.5	31.4	0.365
Initial wt.= 1.8785 gm	23	8.5	1	62.8	0.425
Final wt.=1.8753 gm	31	7.8	1.5	94.2	0.39
D=track dia.=100mm	41	7.1	2	125.6	0.355
RPM=200	47	8	2.5	157	0.4
Time= 10 min.	50	10.1	3	188.4	0.505
	59	5.6	3.5	219.8	0.28
	63	6	4	251.2	0.3
	64	10.3	4.5	282.6	0.515
NAME: DEEP NARAYAN	72	6.1	5	314	0.305
ROLL NO:20MM8051	73	10.4	5.5	345.4	0.52
REG. NO.: 20U10719	81	9.2	6	376.8	0.46
GROUP NUMBER: 3	87	10.1	6.5	408.2	0.505
EXPERIMENT NO.: 2	90	10.7	7	439.6	0.535
EXPERIMENT DATE: 7-8-2023	98	9.5	7.5	471	0.475
SUBMISSION DATE: 14-8-2023	103	9.4	8	502.4	0.47
	110	9.4	8.5	533.8	0.47
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