

References

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Appendix

All digital data of Fig.4-4 are tabulated in the appendix.

Wear loss and wear rate of specimens No.1 for Suga abrasion wear test with a load of 1 kg.

Heat treatment condition		As-	Before	H_{Tmax}	Over
Wear loss, mg	Wear distance, m	hardened	H_{Tmax}	H_{Tmax}	H_{Tmax}
	24	13.3	14.7	8.9	13.2
	48	25.6	26.9	22.5	27.0
	72	37.6	38.9	36.6	38.6
	96	48.7	51.3	47.4	51.6
	120	59.1	63.3	59.9	64.3
	144	69.3	75.0	71.7	76.9
	168	79.2	87.1	84.0	88.9
	192	89.3	99.2	97.1	101.0
Wear rate (R_w), mg/m		0.449	0.502	0.510	0.522

All digital data of Fig.4-5 are tabulated in the appendix.

Wear loss and wear rate of specimens No.2 for Suga abrasion wear test with a load of 1 kg.

Heat treatment condition		As-	Before	H_{Tmax}	Over
Wear loss, mg	Wear distance, m	hardened	H_{Tmax}	H_{Tmax}	H_{Tmax}
	24	11.3	15.7	12.5	13.7
	48	24.6	28.1	24.7	27.0
	72	35.9	40.9	35.7	38.9
	96	46.6	53.5	46.1	51.1
	120	57.0	64.7	57.6	62.9
	144	68.8	76.7	68.2	75.7
	168	82.8	88.3	78.8	88.6
	192	92.8	99.5	89.1	99.0
Wear rate (R_w), mg/m		0.481	0.499	0.454	0.510

All digital data of Fig.4-6 are tabulated in the appendix.

Wear loss and wear rate of specimens No.3 for Suga abrasion wear test with a load of 1 kg.

Heat treatment condition		As-	Before	H_{Tmax}	Over
Wear loss, mg	Wear distance, m	hardened	H_{Tmax}	H_{Tmax}	H_{Tmax}
	24	12.0	11.8	13.1	18.3
	48	23.6	22.2	23.7	32.8
	72	34.5	31.9	34.0	46.9
	96	44.7	42.7	44.2	60.6
	120	55.3	53.1	54.4	73.6
	144	66.3	63.7	65.1	86.7
	168	76.5	74.1	74.9	99.9
	192	87.0	84.9	84.7	113.3
Wear rate (R_w), mg/m		0.444	0.435	0.427	0.562

All digital data of Fig.4-7 are tabulated in the appendix.

Wear loss and wear rate of specimens No.1 for Rubber wheel abrasion wear test with a load of 8.7 kg.

Heat treatment condition		As-	Before	H_{Tmax}	Over
Wear loss, mg	Wear distance, m	hardened	H_{Tmax}	H_{Tmax}	H_{Tmax}
	785.4	56.4	63.1	50.6	67.2
	1570.8	101.2	117.7	95.6	127.8
	2356.2	144.0	169.3	140.6	185.5
	3141.6	179.8	218.7	185.6	240.8
Wear rate (R_w), mg/m		0.053	0.066	0.057	0.074

All digital data of Fig.4-8 are tabulated in the appendix.

Wear loss and wear rate of specimens No.2 for Rubber wheel abrasion wear test with a load of 8.7 kg.

Heat treatment condition		As-	Before	H_{Tmax}	Over
Wear loss, mg	Wear distance, m	hardened	H_{Tmax}	H_{Tmax}	H_{Tmax}
	785.4	44.2	51.8	50.0	68.2
	1570.8	83.3	98.2	95.8	129.9
	2356.2	119.7	144.3	140.8	191.4
	3141.6	154.7	189.5	185.8	252.0
Wear rate (R_w), mg/m		0.047	0.058	0.058	0.078

All digital data of Fig.4-9 are tabulated in the appendix.

Wear loss and wear rate of specimens No.3 for Rubber wheel abrasion wear test with a load of 8.7 kg.

Heat treatment condition		As-	Before	H_{Tmax}	Over
Wear loss, mg	Wear distance, m	hardened	H_{Tmax}	H_{Tmax}	H_{Tmax}
	785.4	57.4	64.7	61.3	102.2
	1570.8	105.5	121.6	116.7	194.0
	2356.2	151.0	176.9	170.5	281.9
	3141.6	194.4	231.0	223.7	367.5
Wear rate (R_w), mg/m		0.058	0.071	0.069	0.113

Biography

My name is Mr. Phasit Aungsupaitoon. I was born on July 9, 1982 in Bangkok. I graduated with a degree of Bachelor degree of Engineering (Metallurgical Engineering) from Chulalongkorn University in 2005. In April 2008, I have carried out to work on this thesis as a researcher student at Department of Materials Science and Metallurgical Engineering, Kurume National College of Technology, Japan.