

Objectives Calibration							Standard: ASTM E384&E92 ISO 6507-2						
Mag. 50X													
Nominal Value stage micrometer (um)		20	50	80	100	150							
	Actual Value (um)	19.96	49.87	80.07	99.69	149.59							
Passed ?		YES	YES	YES	YES	YES							
Mag. 10X													
Nominal Value stage micrometer (um)		50	100	150	250	300							
	Actual Value (um)	50.14	100.33	150.14	250.44	300.17							
Passed ?		YES	YES	YES	YES	YES							
Nom Force(Vickers)	ASTM E384 & E92 Allowable % Error	Force Tolerance		RUN1	RUN2	RUN3	AVG FORCE	% ERROR (Avg Force)	Avg Force Pass/ Fail	Std Deviation	MAX DEV	% ERROR (Max Dev)	Max Dev Force Pass/ Fail
		Low Limit	High Limit										
10 G	1.5%	9.85	10.15	10.05	10.01	10.04	10.03	0.33%	Pass	0.02	0.05	0.50%	Pass
25 G	1.5%	24.63	25.38	25.03	25.02	25.02	25.02	0.09%	Pass	0.01	0.03	0.12%	Pass
50 G	1.5%	49.25	50.75	50.03	49.98	50.04	50.02	0.03%	Pass	0.03	0.04	0.08%	Pass
100 G	1.5%	98.50	101.50	99.95	99.95	99.98	99.96	0.04%	Pass	0.02	0.05	0.05%	Pass
200 G	1.5%	197.00	203.00	199.94	199.81	199.95	199.90	0.05%	Pass	0.08	0.19	0.09%	Pass
300 G	1.0%	297.00	303.00	299.77	299.62	299.75	299.71	0.10%	Pass	0.08	0.38	0.13%	Pass
500 G	1.0%	495.00	505.00	499.54	499.40	499.45	499.46	0.11%	Pass	0.07	0.60	0.12%	Pass
1000 G	1.0%	990.00	1010.00	998.96	998.76	998.68	998.80	0.12%	Pass	0.14	1.32	0.13%	Pass
2000 G	1.0%	1980.00	2020.00	1999.58	1999.67	1999.94	1999.73	0.01%	Pass	0.19	0.00	0.00%	Pass
Nom Force(Knoop)	ASTM E384 & E92 Allowable % Error	Force Tolerance		RUN1	RUN2	RUN3	AVG FORCE	% ERROR (Avg Force)	Avg Force Pass/ Fail	Std Deviation	MAX DEV	% ERROR (Max Dev)	Max Dev Force Pass/ Fail
		Low Limit	High Limit										
10 G	1.5%	9.85	10.15	10.06	10.03	9.99	10.03	0.27%	Pass	0.04	0.06	0.60%	Pass
25 G	1.5%	24.63	25.38	25.10	25.05	25.00	25.05	0.20%	Pass	0.05	0.10	0.40%	Pass
50 G	1.5%	49.25	50.75	50.14	50.07	50.00	50.07	0.14%	Pass	0.07	0.14	0.28%	Pass
100 G	1.5%	98.50	101.50	100.23	100.06	100.00	100.10	0.10%	Pass	0.12	0.23	0.23%	Pass
200 G	1.5%	197.00	203.00	200.53	200.23	200.18	200.31	0.16%	Pass	0.19	0.53	0.27%	Pass
300 G	1.0%	297.00	303.00	300.67	300.22	300.25	300.38	0.13%	Pass	0.25	0.67	0.22%	Pass
500 G	1.0%	495.00	505.00	501.08	500.34	500.41	500.61	0.12%	Pass	0.41	1.08	0.22%	Pass
1000 G	1.0%	990.00	1010.00	1001.89	1001.59	1000.76	1001.41	0.14%	Pass	0.59	1.89	0.19%	Pass
2000 G	1.0%	1980.00	2020.00	2003.04	2003.06	2002.94	2003.01	0.15%	Pass	0.06	0.00	0.00%	Pass

Verification Performed By: _____

_____ OQA

Standard: ASTM E384&E92 ISO 6507-02			Vickers / Knoop Calibration Record Sheet											
			MODEL Tukon 1202			SERIAL No. 1202-02-0170								
Test Type	Testblock	d,d1,d2	Actual Values (Without Clamping Device)					Average	ERROR			REPEATABILITY		
	nominal	[micron]	H1	H2	H3	H4	H5	Ha	Actual	MAX %	Passed	Actual	MAX%	Passed
77KE	D-nominal	d1	19.39	19.92	19.01	19.61	19.66							
HV00.5	19.60	d2	19.18	19.74	19.21	19.61	19.55							
50	HV-nominal	DM	19.3	19.8	19.1	19.6	19.6	19.5	0.11	3	YES	0.72	13	YES
	241.00	HV0.05	249.3	235.8	253.9	241.1	241.2	244.3				18.1		
81KC	D-nominal	d1	21.53	22.01	21.23	21.67	21.44							
HV0.1	21.70	d2	21.45	21.77	21.23	21.57	21.58							
100	HV-nominal	DM	21.5	21.9	21.2	21.6	21.5	21.5	0.15	2	YES	0.66	5	YES
	392.00	HV0.1	401.5	387.0	411.4	396.7	400.8	399.5				24.4		
67KE	D-nominal	d1	39.77	39.48	39.83	39.96	39.19							
HV0.2	39.80	d2	39.59	39.15	39.64	39.64	39.36							
200	HV-nominal	DM	39.7	39.3	39.7	39.8	39.3	39.6	0.24	2	YES	0.52	13	YES
	234.00	HV0.2	235.6	239.9	234.9	234.1	240.4	237.0				6.3		
78KE	D-nominal	d1	66.14	66.11	65.90	65.32	65.92							
HV0.5	65.90	d2	65.59	65.90	65.90	65.80	66.25							
500	HV-nominal	DM	65.9	66.0	65.9	65.6	66.1	65.9	0.02	2	YES	0.53	8	YES
	214.00	HV0.5	213.7	212.8	213.5	215.7	212.3	213.6				3.4		
08 H68025	D-nominal	d1	51.37	51.17	51.60	50.95	51.20							
HV1	51.20	d2	51.19	51.17	51.47	51.02	51.32							
1000	HV-nominal	DM	51.3	51.2	51.5	51.0	51.3	51.2	0.05	2	YES	0.55	3	YES
	707.00	HV1	705.2	708.2	698.2	713.4	705.7	706.2				15.1		
08 H67968	D-nominal	d1	72.49	72.14	72.36	72.31	72.58							
HV2	72.40	d2	72.64	72.41	72.51	72.39	72.33							
2000	HV-nominal	DM	72.6	72.3	72.4	72.4	72.5	72.4	0.02	2	YES	0.29	2	YES
	708.00	HV2	704.3	710.0	706.9	708.5	706.5	707.2				5.7		
41KF	D-nominal													
HK0.01	24.90	d	24.75	25.01	25.01	24.80	25.07	24.9	0.03	2	YES	0.32	13	YES
10	HK-nominal	HK0.01	232.3	227.5	227.5	231.4	226.4	229.0				5.9		
	229.00													
96KD	D-nominal													
HK0.3	74.00	d	74.15	75.66	73.99	74.01	74.01	74.4	0.36	2	YES	1.67	4	YES
300	HK-nominal	HK0.3	776.4	745.7	779.7	779.3	779.3	771.9				34.0		
	781.00													
31KF	D-nominal													
HK0.5	95.60	d	94.95	95.30	95.16	95.18	94.76	95.1	0.53	2	YES	0.54	3	YES
500	HK-nominal	HK0.5	789.1	783.4	785.7	785.3	792.3	787.2				9.0		
	779.00													
48KG	D-nominal													
HK1	260.50	d	258.97	258.35	260.27	259.68	259.43	259.3	1.16	2	YES	1.92	8	YES
1000	HK-nominal	HK1	212.2	213.2	210.1	211.0	211.4	211.6				3.1		
	210.00													

Verification Performed By: _____

_____ OQA

Verification Report

Description: Knoop / Vickers Micro hardness Tester

Model Name: Tukon 1202 Serial Number: 1202-02-0170

Vickers Diamond Indenter No: EV002873 Knoop Diamond Indenter No: 101013

Date of Verification: Nov,17,2012

Note: This certificate shall not be reproduced except in full, without the approval of Wilson Hardness.

The verification performed is in compliance with ISO6507-2, ASTM E92-82, ASTM-E384

The procedure by ITW Test&Measurement used to calibrate this unit was: SOP-QP-010

Environmental conditions: Temperature: 20°C Limits of Permissible Error: 23%/-5 °C

Verification Performed By: _____ OQA