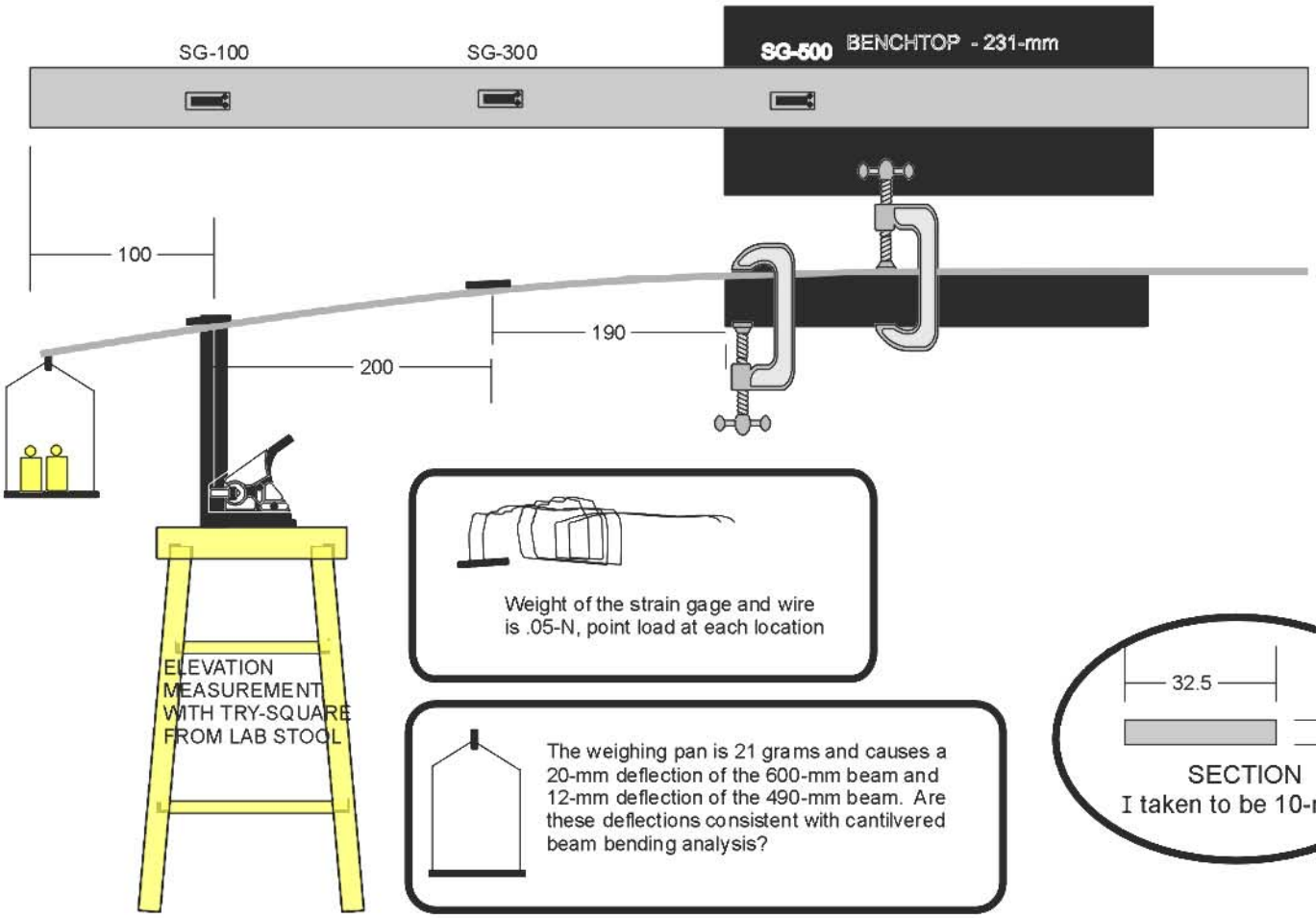
DATA SHEET for INSTRUMENTED CANTILEVER BEAM, SECTION 3.2 OF MODULE HANDOUT



CLASS DATA

LOAD	END OF BEAM-ELE	END OF BEAM-$\mu\varepsilon$	SG-100 ELE.	SG-100 $\mu\varepsilon$	SG-300 ELE	SG-300 $\mu\varepsilon$		BENCHTOP ELE	BENCHTOP $\mu\varepsilon$	BEAM HOR PROJECT.
TARE	203	0	208	0	222	0		231	0	490
0.5-N	176	0	190	49	217	160		231	12	487
1.0-N	151	0	173	97	212	315		231	20	484

SUPPLEMENTARY NOTES

THIS PROCEDURE WAS ALSO PERFORMED IN ADVANCE TO SAVE TIME; USE THE ABOVE DATA. THE BEAM IS AT THE REAR OF THE ROOM FOR VIEWING. TO EXPLAIN WHAT WAS DONE, THE TRY-SQUARE WAS USED TO MEASURE ELEVATIONS OF THE BEAM AND WAS SLID ALONG THE FLOOR TO THE RESPECTIVE POSITIONS. THE STRAIN GAGES WERE READ IN MICROSTRAIN UNITS, WHICH IS STRAIN MULTIPLIED BY 10^6. AT THE BEGINNING OF THE TEST THE BEAM BENDS UNDER ITS OWN WEIGHT AND THAT OF THE PAN AND THE STRAIN GAGES THEMSELVES (FORCES FROM THESE IS ABOVE). THERE IS STRAIN IN THE GAGES AT THE BEGINNING POSITIONS, BUT BECAUSE THIS STRAIN IN UNKNOWN, THE STRAIN GAGES WERE "ZEROED" IN THE STARTING OR TARE POSITION. SO THE READINGS ARE RELATIVE STRAIN FROM THE STARTING POSITION. BUT THIS IS SIMILAR TO THE ELEVATION MEASUREMENTS WHICH ARE TAKEN RELATIVE TO THE TRY-SQUARE MOUNTED ON THE LAB STOOL.