

WORKSHEET FOR THE RECRYSTALLIZATION EXPERIMENT

Section _____ Date _____

Lab Partners _____

Equipment

Hardness Tester _____ Tensile Tester _____

Load capacity _____ kN Max Extension _____ m

Optical Microscope _____

Specimens

Alloy _____ Condition _____

Specimen Identification

Specimen Number	Specimen Name or ID Code	Annealing Temperature, °C	Annealing Time, hours	Homologous Temperature
1				
2				
3				
4				
5				
6				

Hardness Tests

Results of the hardness tests

Specimen Number	Test 1	Test 2	Test 3	Test 4	Test 5	Average
1						
2						
3						
4						
5						
6						

Tensile Tests

Test method number_____ Crosshead speed_____m/s

Initial sampling rate_____Hz Second sampling rate_____Hz

File names

Specimen Number	Directory	File Name (*.mrd or *.mad)
1		
2		
3		
4		
5		
6		

Initial specimen dimensions

Specimen Number	Length mm	Width mm	Thickness mm	Area m ²
1				
2				
3				
4				
5				
6				

Final specimen dimensions

Specimen Number	Length mm	Width mm	Thickness mm	Area m ²
1				
2				
3				
4				
5				
6				

Analysis of the tensile tests

Specimen Number	Young's Modulus GPa	Yield Strength MPa	UTS MPa	Elongation %	Reduction in Area %	Toughness MPa	Work done J
1							
2							
3							
4							
5							
6							

Typical tensile properties and hardness as reported in the literature

Specimen Number	Young's Modulus GPa	Yield Strength MPa	UTS MPa	Elongation %	Reduction in Area %	Rockwell Hardness
1						
2						
3						
4						
5						
6						

References used in the above table:

1. _____
2. _____
3. _____
4. _____

Notes

Optical Microscopy

Description of microstructures

Specimen Number	General description of major features (grain shape, size and size distribution)	Stage of annealing (recovery, recrystallization, grain growth)
1		
2		
3		
4		
5		
6		