

TMS Bladesmithing Competition Judging Rubric

Technical Report: 40 points total maximum

	Score	Comments
Report Content: 10 points maximum		
Considerations for report content include: <ul style="list-style-type: none"> • Historical background • Discussion on safety procedures • Final blade shown in the report • Proper acknowledgements, as applicable (funding, university, facility, artisan) 		
Scientific Merit: 10 points maximum		
Considerations for scientific merit include: <ul style="list-style-type: none"> • Blade material: source and choice of material clearly stated • Method of execution explained: forging, pattern-welding, forge welding, etc. • Explanation of concepts, metallurgy understood (heat treatment, phase transformation, internal stresses, extractive metallurgy if produced from ore, etc.) 		
Characterization: 10 points maximum		
Considerations for characterization include: <ul style="list-style-type: none"> • Mechanical properties testing • Metallography (sample preparation quality, proper magnification, proper etchants) • Proper use of SEM, EDS (if applicable) • Other tests (blade geometrical measurements, balance point measurement, etc.) 		
Communications and Style: 10 points maximum		
Considerations for communications and style include: <ul style="list-style-type: none"> • Aesthetics and layout • Correct spelling, fonts, units, formatting • Report structure: abstract/introduction/experiments/conclusions • Easy to read and understand (clear sentences, use of proper technical terms) • Proper referencing 		