

DEPARTMENT NAME : **Materials Science & Engineering**

VICE-PRESIDENT AREA : **Chief Business Officer (CECAS)**

Description of commodity or service :	Unit of Billing	FY 19 RATE
<b><u>Analytical Testing Laboratory</u></b>		
Sample Preparation	per hour	\$120.16
Extractions (Soxhlet)	per sample	\$120.16
Extractions (ASE)	per sample	\$80.33
Data Analysis	per hour	\$209.51
FTIR/ UV/Vis/NIR - Instrument (Avg 20 Min/Sample)	per instr. hour	\$248.47
GC/MS - Instrument (Avg 40 Min/Sample)	per instr. hour	\$209.51
Chromatography GC, SFC, HPLC - Instrument (Excludes Method Development)	per instr. hour	\$120.16
NMR - Operator	per hour	\$209.51
NMR - Instrument	per instr. hour	\$30.19
Thermal Analysis TGA, DSC, MDSC	per instr. hour	\$148.92
Thermal Analysis DMTA (DMA OR TMA) - Instrument (Avg 60 Min/Sample)	per instr. hour	\$188.50
<b><u>Physical Testing Laboratory</u></b>		
Skein Break D-1578	per sample	\$66.96
Tensile (Grab) Warp & Filling - D-5034	per sample	\$77.62
Tensile (Modified Grab) Warp & Filling - D-5034	per sample	\$77.62
Single End Yarn Break - Statimat 11 - D-2256	per sample	\$77.62
Single End Yarn Break - Instron D-2256	per sample	\$77.62
Tear Test (Tounge) D-2261	per sample	\$77.62
Tear Test (Trapezoid) D-5587	per sample	\$77.62
Tensile 1" Strip (Instron or Scott) D-5035	per sample	\$77.62
Single Fiber Break D-3822	per sample	\$111.08
Resistance to Slippage of Yarns in Woven Fabric - D434	per sample	\$111.08

Bursting (Ball) - ASTM D-3787	per sample	\$77.62
Hydrostatic Head (FX 3000) - 127 AATCC	per sample	\$66.96
Air Permeability (FX 3300) - D-0737	per sample	\$44.30
Water Repellency - Spray Test - 22 AATCC	per sample	\$55.90
Water Repellency - IPA/Water AATCC - 42	per sample	\$66.96
Abrasion - StohID-3885/D3886	per sample	\$66.96
Abrasion - Yarn - CTT	per sample	\$92.11
Abrasion - Taber (Cost Plus Wheels)	per sample	\$167.28
Abrasion (Wyzenbeek) D-4157	per sample	\$111.08
Pilling (Rotary Tumble) - 3 Repeats D-3512	per sample	\$66.96
Tear Test (D-1424) Elmendorf	per sample	\$59.36
Weight - D-3776	per sample	\$44.30
AOS (EOS) Geotextile	per sample	\$111.08
Moisture Regain/Content D-2495	per sample	\$77.62
Colorfastness to laundering (Home& Comm: Acclrtd) - AATCC 61 - 3A Test	per sample	\$557.94
Color Fastness (Crocking) AATCC 8:	per sample	\$44.30
Colorfastness to Light (Carbon-Arc Lamp) 16 AATCC Sec. 1 D	per sample	\$86.09
Colorfastness (Washing)	per sample	\$111.84
PH % - 81	per sample	\$44.30
Scour Greige Goods & Dye	per sample	\$333.08
Dimensional Change (Shrinkage) 3 Repeats/Sample - 135 AATCC	per sample	\$222.77
Fabric Durable Press Rating 3 Repeats - 124 AATCC	per sample	\$222.77
Flammability (45 degree Angle) FTM 5908 ASTM- D-1230	per sample	\$66.96
Verticle Flammability ASTM D-6413	per sample	\$66.96
Barre' (Redye)	per sample	\$277.44
Barre' (Yarn Pull & Weigh)	per sample	\$166.57
Barre' (Yarn Pull & ReKnit)	per sample	\$166.57
MacBeth Color Eye - Spectrophotometer	Per hour	\$248.47
Microscopy/Image Analysis	per hour	\$139.89
Crimp Per Inch (Fiber)	per sample	\$44.30
Cross-Sections sample preparation(microscopy separate)	per sample	\$77.62
Fiber Denier (Microscopic Measurement)	per sample	\$66.96
Fiber Staple Length	per sample	\$44.30
Uster AFIS (Neps, Length & Diameter & Trash)	per sample	\$66.96

Yarn Denier/Count by Weight	per sample	\$33.76
Yarn Shrinkage (Boiling Water) D-2259	per sample	\$111.08
Yarn Tension	per sample	\$133.57
Yarn Filament Count	per sample	\$55.90
Yarn Inspection (Pulled from fabric)	per sample	\$23.26
Uster (Yarn Evenness) D-1425	per sample	\$77.62
Yarn Twist (ILS) D-1423	per sample	\$59.42
Yarn Appearance (EIB) D2255	per sample	\$44.30
Fabric Width D-3774	per sample	\$44.30
Fabric (Construction Ends/in., Picks/in., etc., D-3775	per sample	\$77.62
Fabric Streak Analyzer (Replicas)	per sample	\$35.70
Thickness - SAE J-1355	per sample	\$44.30
Thickness (Shirley) FTM 5030	per sample	\$44.30
Loop Strength ASTM D2256-5 (YARN)	per sample	\$77.62
Pore Distribution & Bubble Point (PMI)	per sample	\$302.23
General Laboratory Usage (no equipment usage)	daily	\$928.56
Benz oven use and Latex Trials	per day	\$1,394.34
Non-Wovens Laboratory Usage (Rando Machine)(except fiberglass)	daily	\$1,578.96
Hills Extruder (Room 236 Sirrine) (single extruder includes winding & drawing) (1/2 Day Min.)	daily	\$2,784.60
James Extruder (Room 305 Rhodes) double extruder without winding and without drawing (1/2 Day Min.)	daily	\$1,854.97
Atomic Force Microscopy	per hour	\$154.63
Surface tension of different liquids	per hour	\$91.39
Surface energy of planar substrates, fibers and contact angles	per hour	\$91.39
Rheological analysis of complex fluids	per hour	\$78.74
Characterization of compression properties of fiber and films (Kawabata compression tester)	per hour	\$99.86
High speed imaging of droplet spreading and absorption into fibrous materials	per hour	\$137.80
Characterization of magneto-optical properties of transparent materials (verdet constants)	per hour	\$102.66
<b>CERAMICS &amp; MATERIALS ENGINEERING</b>		
<b><u>External Rates</u></b>		
X-ray Diffraction	per hour	\$92.82
Total Particle Size Analysis	per sample	\$277.44
PSD(Horiba)	per sample	\$277.44
Thermogravimetric Analysis (Netzsch)	per sample	\$277.44
Differential Thermal Analysis	per sample	\$277.44
Dilatometry(air) ((Netzsch)	per sample	\$185.64
Dilatometry(controlled atmosphere)	per sample	\$370.87

<b><u>AMRL Rates</u></b>		
Optical Fiber Draws	Per day	\$3,842.34
Optical Characterization	per sample	\$265.20
New View (White Light interferometer)	per hour	\$86.09
Microthermal analysis	per hour	\$257.55
Viscosity Measurements	per sample	\$140.56
MCVD preform fabrication	Per day	\$4,248.30
Stacking	Per day	\$2,813.16