



BILLING RATES - FY 10/11

DEPARTMENT NAME :
Materials Science & Engineering

VICE-PRESIDENT AREA :
Academic Affairs

DESCRIPTION OF COMMODITY OR SERVICE :	UNIT OF BILLING	FY 10/11 RATE	CUSTOMERS BEING SERVED
TEXTILES, FIBERS, POLYMER SCIENCE			
<u>Analytical Testing Laboratory</u>			
Sample Preparation	per hour	\$82.90	Greater Textile & Fiber Industries
Extractions (Soxhlet)	per sample	\$82.90	(Same Customers for all Testing Listed Below)
Extractions (Supercritical) - Instrument	per instr. hour	\$82.90	"
Extractions (Supercritical) - Preparation	per sample	\$20.85	"
Extractions (ASE) - Organic Solvent	per sample	\$55.20	"
Extractions (ASE) - Acqueous	per sample	\$82.90	"
Data Analysis	per hour	\$144.50	"
FTIR - Instrument (Avg 20 Min/Sample)	per instr. hour	\$130.00	"
FTIR Microscopy - Instrument (Avg 20 Min/Sample)	per instr. hour	\$171.45	"
GC/MS - Instrument (Avg 40 Min/Sample)	per instr. hour	\$144.50	"
Chromatography GC, SFC, HPLC - Instrument	per instr. hour	\$82.90	"
NMR - Operator	per hour	\$144.50	"



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NMR - Instrument	per instr. hour	\$20.85	"
Thermal Analysis TGA - Instrument (Avg 60 Min/Sample)	per instr. hour	\$102.75	"
Thermal Analysis DSC - Instrument (Avg 30 Min/Sample)	per instr. hour	\$102.75	"
Thermal Analysis MDSC - Instrument (Avg 60 Min/Sample)	per instr. hour	\$102.75	"
Thermal Analysis DMTA - Instrument (Avg 60 Min/Sample)	per instr. hour	\$130.00	"
Formaldehyd/Benze Trials	daily	\$3,198.00	"
<u>Physical Testing Laboratory</u>			
Bursting (Mullen) - ASTM D-3786	per sample	\$53.60	"
Bursting (Ball) - ASTM D-3787	per sample	\$53.60	"
Air Permeability (FX 3300) - D-0737	per sample	\$30.50	"
Abrasion - Stohl (Flex) D-3885	per sample	\$46.00	"
Abrasion - Stohl (Diaphragm) D-3886	per sample	\$46.00	"
Abrasion - Yarn - CTT	per sample	\$63.40	"



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Yarn Twist (ILS) D-1423	per sample	\$41.00	"
Tear Test (D-1424) Elmendorf	per sample	\$41.00	"
Uster (Yarn Evenness) D-1425	per sample	\$53.60	"
Skein Break D-1578	per sample	\$46.00	"
Tensile (Grab) Warp & Filling - D-5034	per sample	\$53.60	"
Tensile (Modified Grab) Warp & Filling - D-5034	per sample	\$53.60	"
Single End Yarn Break - Statimat 11 - D-2256	per sample	\$53.60	"
Single End Yarn Break - Instron D-2256	per sample	\$53.60	"
Tear Test (Tounge) D-2261	per sample	\$53.60	"
Tear Test (Trapezoid) D-5587	per sample	\$53.60	"
Pilling (Rotary Tumble) - 3 Repeats D-3512	per sample	\$46.00	"
Weight - D-3776	per sample	\$30.50	"
Single Fiber Break D-3822	per sample	\$76.50	"



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AOS (EOS) Geotextile	per sample	\$76.50	"
Yarn Appearance (EIB) D2255	per sample	\$30.50	"
Fabric Width D-3774	per sample	\$30.50	"
Tensile 1" Strip (Instron or Scott) D-5035	per sample	\$53.60	"
Fabric (Construction Ends/in., Picks/in., etc., D-3775	per sample	\$53.60	"
Abrasion - Taber (Cost Plus Wheels)	per sample	\$115.55	"
Abrasion (Wyzenbeek) D-4157	per sample	\$76.50	"
Moisture Regain/Content D-2495	per sample	\$53.60	"
Resistance to Slippage of Yarns in Woven Fabric - D434	per sample	\$76.50	"
Yarn Shrinkage (Boiling Water) D-2259	per sample	\$76.50	"
Yarn Inspection (Pulled from fabric)	per sample	\$16.00	"
Color Fastness (Crocking) AATCC 8:	per sample	\$30.50	"
Colorfastness to Light (Carbon-Arc Lamp) 16 AATCC Sec. 1 D	per sample	\$59.40	"



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PH % - 81	per sample	\$30.50	"
Dimensional Change (Shrinkage) 3 Repeats/Sample - 135 AATCC	per sample	\$153.50	"
Fabric Durable Press Rating 3 Repeats - 124 AATCC	per sample	\$153.50	"
Hydrostatic Head (FX 3000) - 127 AATCC	per sample	\$46.00	"
Soil Release (Oily Stain Method) - 130 AATCC	per sample	\$92.00	"
Colorfastness to laundering (Home& Comm: Accltrd) - AATCC 61 - 3A Test	per sample	\$385.20	"
Water Repellency - Spray Test - 22 AATCC	per sample	\$38.50	"
Water Repellency - IPA/Water AATCC - 42	per sample	\$46.00	"
Thickness (Shirley) FTM 5030	per sample	\$30.50	"
Flammability (45 degree Angle) FTM 5908 ASTM- D-1230	per sample	\$46.00	"
Verticle Flammability ASTM D-6413	per sample	\$46.00	"
Latex Trials	per day	\$963.00	"
Colorfastness (Washing)	per sample	\$77.00	"



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Barre' (Redye)	per sample	\$191.50	"
Barre' (Yarn Pull & Weigh)	per sample	\$115.00	"
Scour Greige Goods & Dye	per sample	\$230.00	"
Barre' (Yarn Pull & ReKnit)	per sample	\$115.00	"
Yarn Denier/Count by Weight	per sample	\$23.25	"
Fiber Denier (Microscopic Measurement)	per sample	\$46.00	"
Uster AFIS (Neps, Length & Diameter & Trash)	per sample	\$46.00	"
MacBeth Color Eye - Spectrophotometer	per sample	\$92.00	"
HVI (Per Sample) ASTM D-4605	per sample	\$2.70	"
Liquid Wicking - INDA 10-70-3	per sample	\$30.50	"
Photomicrograph - Polaroid	per picture	\$18.75	"
Photomicrograph - 35 MM	per picture	\$26.25	"
Fabric Streak Analyzer (Replicas)	per sample	\$24.60	"



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Image Analysis	per hour	\$96.55	"
Fabric Contamination Determination (Chem, Micro, Photo, etc.)	per sample	\$77.00	"
Desize Yarn	per hour	\$77.00	"
Yarn Tension	per sample	\$92.00	"
Fusion of Fibers	per sample	\$46.00	"
Crimp Per Inch (Fiber)	per sample	\$30.50	"
Cross-Sections (Fibers - Microtome Method)	per sample	\$53.60	"
% Take-Up (Ground & Pile)	per sample	\$38.50	"
Yarn Contraction (Per Directions)	per sample	\$38.50	"
Fiber Staple Length	per sample	\$30.50	"
Yarn Filament Count	per sample	\$38.50	"
Thickness - SAE J-1355	per sample	\$30.50	"
Sewability of Woven Cloth; Seam efficiency Method FTM 5110	per sample	\$63.95	"



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Loop Strength ASTM D2256-5 (YARN)	per sample	\$53.60	"
Pore Distribution & Bubble Point (PMI)	per sample	\$208.65	"
General Laboratory Usage	daily	\$640.95	"
Non-Wovens Laboratory Usage (Rando Machine)(except fiberglas)	daily	\$1,090.00	"
Hills Extruder (Room 236 Sitrine) with technical assistance (single extruder includes winding & drawing) (1/2 Day Min.)	daily	\$1,921.75	"
James Extruder (Room 305 Rhodes) double extruder without winding and without drawing (1/2 Day Min.)	daily	\$1,280.80	"

CERAMICS & MATERIALS ENGINEERING

External Rates

X-ray Diffraction(room temperature)	per sample	\$128.15	Industrial companies
X-ray Diffraction(elevated Temperature)	per hour	\$63.95	"
Total Particle Size Analysis	per sample	\$191.50	"
PSD(Horiba)	per sample	\$191.50	"



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Thermogravimetric Analysis	per sample	\$191.50	"
Differential Thermal Analysis	per sample	\$191.50	"
Dilatometry(air)	per sample	\$128.15	"
Dilatometry(controlled atmosphere)	per sample	\$256.00	"
<u>Internal Rates</u>			
X-ray Diffraction(room temperature)	per sample	\$32.10	Faculty and CU Research Staff
X-ray Diffraction(elevated Temperature)	per hour	\$12.85	"
Total Particle Size Analysis	per sample	\$63.95	"
PSD(Horiba)	per sample	\$63.95	"
Thermogravimetric Analysis	per sample	\$63.95	"
Differential Thermal Analysis	per sample	\$63.95	"
Dilatometry(air)	per sample	\$63.95	"
Dilatometry(controlled atmosphere)	per sample	\$96.85	"



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<u>AMRL Rates</u>			
Optical Fiber Draws	per day	\$2,440.65	"
Optical Characterization	per sample	\$183.00	"
New View (White Light interferometer)	per hour	\$59.40	"
Microthermal analysis	per hour	\$177.90	"

ALL CHARGES EXCLUSIVE OF SUPPLIES