

Proposal Title: Advanced Concrete Test MachinesContact Name: ILSEOK OH Email: ioh@spsu.edu Phone: X 3264Program/Department/Organization: Civil Engineering Technology**Project Description** (what, where, why, how)

The requested equipment, Advanced Concrete Test Machines, will be located in the construction materials laboratory of CET Dept. It includes Maturity meters and Schmidt hammers. With the advances of concrete technology, non-destructive testing of concrete has been very popular, but CET Dept. has none that students can use to learn those new technologies. This equipment also will be used by the students in ENGR 3131, Strength of Materials.

Request Summary

- Is this a continuation of a previous tech fee proposal? ___ Yes X No. If yes, what project number?

- What is the proposed project "lifetime" or "life expectancy" of any resources/equipment to be acquired?
+ 15 yrs
- Does the project require a maintenance agreement, if so, how will it be funded in the future? ___ No
- Who will manage/support the requested resources?
Civil Engineering Technology Department
- Are there any space issues related to this proposal? (e.g. has space been assigned for a new lab?) ___ Yes X No
- Is partial funding possible? Yes ___ No X If yes, please explain below under 'Partial Funding Options.'

	Project Total \$	\$ Tech Fee Request
Equipment	\$5,500.00	\$5,500.00
Software		
Maintenance		
Operating & Supplies		
Student Assistant Salary Funds		
Regular Employee Salary Funds/Benefits		
Other, please explain below		
TOTAL	\$5,500.00	\$5,500.00

**prices are based on consultation with Sales Rep.*

Project #: A-08-05R

2008 Technology Fee Proposal

Page 2 of 6

Please see Guidelines at <http://www.spsu.edu/techfee/guidelines.html>

Criticality of project, Courses supported

(List the course name/number, if it is a core course, elective, required, etc.)

CET 3302 (Construction Materials, Dept. core, 4 credits)
ENGR 3131 (Strength of Materials, Core, 4 credits)

Number of students served

(Estimate the number of students per semester who will have access to the requested resources)

CET 3302 – 25 students per semester
ENGR 3131 – 90 students per semester (CET and MET)

Collaboration

(What are the benefits of collaboration for this proposal?)

Relevance to Regents Guidelines

(Reference the Board of Regents Guidelines available at <http://www.spsu.edu/techfee/guidelines.html>)

The proposal meets BOR guidelines [1] and [3]

Partial Funding Options (optional)

*(If possible, list potential partial funding options, along with a **brief** description of how partial funding will impact the success of the project)*

Departmental Approval

Proposals from students/student organizations require the signature of a faculty/staff advisor, indicating review; proposals from academic areas require the signature of their dean, or the VPAA; proposals from staff require the signature of the department or division director/head.

Approved by: _____ Title: _____
(Please print name)

Signature: _____ Date: _____ Additional comments or conditions attached?
? Yes ? No

IT Division Review

Project with computer or information technology must be reviewed prior to submission by IT staff to determine the impact on campus technology standards, feasibility, infrastructure impact, and support.

Reviewed by: _____ Title: _____
(CIO or IT designee)

Signature: _____ Date: _____ Additional comments or conditions attached?
? Yes ? No

Equipment Spec. from Manufacturer

Models HM-134 and HM-136 4-Channel Meters have internal memory for over 10 months of continuous recording of half-hour readings. Datum temperature for the degree-hours function and activation energy for the equivalent hours function are user programmable. One to four locations can be monitored at once, and all channels are accessed via membrane keyboard and alphanumeric display. Maturity progress can be checked directly from the meter at any time.

Standard Model HM-136 meter is operated by included 9V Lithium battery for 3 weeks or more. Rechargeable Model HM-134 has an additional NiCad battery and charger to more than double unattended life or permit operation from 115V AC. Both meters come complete with Type T thermocouple wire, 4 connectors, RS-232 cable for downloading to a PC, and a plastic carrying case. Meter dimensions are 8x4.8x3" (203x122x76mm). Shipping Data: 8 lb (3.6kg); Cu.Ft.: 0.3.



Lightweight and portable, Concrete Test Hammers are ideal for fast, inexpensive, nondestructive tests to estimate compressive strength of in-place concrete. Hammer tests can determine when and where test cores should be taken. Damage due to freezing or fire can also be estimated. Useful range covers concrete strength of approx. 1400 to 8000 psi (10 - 55 MPa).

The plunger rod is pressed against a concrete surface until a spring-loaded mass is released against the internal end of the rod, causing an impact on the concrete. Rebound of the mass is registered on the instrument as the "rebound number." Calibration curves provided estimate strength from rebound number. Curves are based on correlation with many tests of cubes and cylinders broken in compression machines. Accuracy

of 75% may be improved by user-correlation of hammer with compression tests on the same type of concrete to be tested with hammer. Model HM-71 Concrete Test Hammer is an economic unit that meets all ASTM requirements. The easy to use unit produces a simple rebound number for strength estimations from included charts or from user's data. Carborundum rubbing stone and rugged nylon cloth carrying case are included. Shipping Data: 6 lb (2.7kg); Cu. Ft.: 0.3. Model HM-75 Original Schmidt brand hammer with plastic carrying case, charts, instructions, and carborundum rubbing stone for preparation of test surface. Dimensions with case: 12.5x5.5x4.5" (318x140x114mm), LxDxH; Net Wt.: 2 lb (1kg). Shipping Data: 6 lb (2.7kg); Cu. Ft.: 0.3. Model HM-101 Recording Hammer automatically records rebound numbers as a bar chart on a paper strip. Each strip chart will log up to 4000 impacts. HM-101 is supplied with carrying case, paper charts and grinding stone. Dimensions with case: 11.6x12.8x4.1" (295x325x105mm), WxDxH. Shipping Data: 6.4lb (2.9kg); Cu. Ft. 0.4.

Project #: A-08-05R

2008 Technology Fee Proposal

Page 6 of 6

Please see Guidelines at <http://www.spsu.edu/techfee/guidelines.html>