

**SPECIFICATION
FOR
SCRUBBERS, FLOOR, RIDER OPERATED,
AND
SCRUBBER/SWEEPER**

(This specification is released for procurement purposes until amended, rescinded, or formally approved.)

SCOPE

This specification covers the requirements for rider operated, battery powered scrubbers and combination sweeper scrubbers. The floor scrubber shall use cleaning solution and a scrub brush to clean the floor. The scrubber sweeper is to provide both a sweeping and scrubbing function simultaneously with one rider operated machine. With one pass, the scrubber sweeper shall brush debris into a hopper and subsequently dispense cleaning solution and scrub the floor. These machines are primarily intended for indoor use over wood, tile or concrete floors. It is not intended to cover all sizes and types commercially available, but only those considered most applicable to the needs of state agencies and institutions.

I. CLASSIFICATION

Machines covered are of the following types.

Product Class	Machine Type	Cleaning Path (in) ¹	Scrub Brush Shape	Min. Basic Unit Weight ² (lbs)
1	Scrubber	28	Disc	1000
2	Scrubber	34	Disc	1100
3	Scrubber	38	Disc	1500
4	Scrubber	28	Cylindrical	1000
5	Scrubber	34	Cylindrical	1100
6	Scrubber	38	Cylindrical	1500
7	Scrubber/Sweeper	28	Not Applicable	825
8	Scrubber/Sweeper	34	Not Applicable	1100

NOTE 1: Cleaning path indicates the minimum cleaning width with the manufacturer's standard brush configuration as advertised for the base model of the machine.

NOTE 2: Basic unit weight includes pad holder assembly and batteries.

II. APPLICABLE STANDARDS

The following document of issue in effect on the date of the Invitation For Bid shall form a part of this specification:

Battery Council International
401 North Michigan Avenue, 24th Floor
Chicago, Illinois 60611-4267

OSHA Regulations (Standards - 29 CFR) Occupational noise exposure. - 1910.95
Nationally Recognized Testing Laboratories (NRTL)
Federal Occupational Safety and Health Act (OSHA)
U.S. Department of Labor
200 Constitution Avenue N.W.
Washington, D.C. 20210

Underwriters Laboratories, UL 583, Standard for Electric-Battery-Powered Industrial Trucks
Underwriters Laboratories, Inc.
333 Pfingsten Road, Northbrook, IL 60062-2096

III. REQUIREMENTS

A. GENERAL

1. Standard Product

Products are not acceptable if they deviate from the specifications in the manufacturer's published literature or if they deviate from the manufacturer's standard production practices. All products shall be new and complete with all necessary operating accessories customarily furnished by the manufacturer.

At the State's request, the manufacturer may be required to substantiate claims made in its specifications by providing certified copies of test reports for tests conducted by a recognized independent testing laboratory.

2. Ease of Maintenance

The design of the unit shall permit ready accessibility for servicing, replacement, and adjustment of component parts and accessories, with minimum disturbance of other elements.

3. Safety

Complete equipment shall have a safety listing marking or label compliant to the North Carolina General Statute Chapter 66, Article 4, which shall indicate equipment has been evaluated by an independent third party laboratory acceptable by the North Carolina Building Codes Council as referenced on the current NC Department of Insurance website. The referenced webpage list indicates laboratories acceptable for listing evaluation of specific product categories and includes but is not limited to Underwriters Laboratories, Intertek (ETL) and CSA. The safety listing requirement applies to the entire unit, not just a component thereof, like a switch, motor or control panel. If the battery charger is provided as a separate component, the battery charger shall also be safety listed. Ref:

<http://www.ncdoi.com/osfm/engineering/bcc/documents/electricalmechanicalequipmentlabeling.pdf>

All moving parts, parts subject to high temperature, and electrical components that are of such nature or so located as to become a hazard to operating personnel, shall be insulated, fully enclosed or guarded. Operator's platform and foot operated controls shall be provided with non-skid surfaces. Operator shall have a clear and unobstructed view in all directions.

- a) Noise Limits - The scrubber shall be furnished with all applicable equipment and accessories as required by OSHA. The machine shall be designed not to exceed OSHA requirements for noise at ear level of the seated operator for 8-hour exposure without enclosed cab.
- b) Horn - An electric actuated horn shall be provided. The sound level of the horn shall be noticeably greater than the sound level of the machine operating at full power.

B. MOTOR AND BATTERIES

Electric drive motor shall be 24 or 36 volt D.C. furnished with all necessary components and controls necessary to make it a complete operating power source suitable for continuous service.

Batteries shall be furnished for operation of electric motors and shall be capable of operating the machine for a period of 2½ hours without recharging, unless otherwise specified in Invitation For Bid. A built-in or separate battery charger shall be furnished. It shall be capable of recharging 80% discharged batteries in approximately 8 hours. Batteries shall be certified or otherwise documented as being in compliance with applicable requirements of the Battery Council International Specifications.

C. DRIVE

Machines shall have hydraulic, hydrostatic or direct drive. Chain drives will not be accepted. Side brushes may be belt driven from the main drive.

D. BRUSHES

- 1. Scrubbers shall have brushes that are easily adjustable for wear as applicable and easily replaceable. Bristle materials shall be furnished as specified in Invitation For Bid.
- 2. Sweeper/scrubbers shall have brush(es) capable of depositing debris in the hopper.

E. TANKS

The minimum solution tank size shall be 27 gallons and the minimum recovery tank size shall be 29 gallons. Tanks shall be of stainless steel, fiber glass or other durable plastic, or plain steel. Plain steel tanks shall be coated with urethane or otherwise treated to prevent rusting.

F. VACUUM FANS

Machines shall be equipped with vacuum fans capable of moving water from squeegees to the recovery tank. Filtration shall be provided as necessary to prevent dust from being exhausted into the atmosphere.

G. SQUEEGES

Machines shall be equipped with floating rubber squeegee to direct water to a central point for vacuum pick-up. Squeegee shall be retractable to allow double scrubbing and shall automatically or manually retract when machine is reversed. Squeegee shall be easily adjustable and replaceable.

H. STEERING

Steering gear shall be automotive type and may steer by front or rear wheel(s). Steering wheel shall be sized and positioned to provide the operator easy control of the machine.

I. WHEELS AND TIRES

Machines may have 3 or 4 wheel configuration. Three wheel machines may have single wheel in front or rear and the arrangement shall be such that the machine is stable and does not tip over easily under normal operating conditions and speeds. Wheel and tire sizes and types shall be the manufacturer's standard unless otherwise specified in the Invitation For Bid.

J. PERFORMANCE

Scrubbers shall effectively clean and remove dirty water from the floor leaving it free of any water accumulation. Sweeper/scrubbers shall in addition to the above effectively pick up and accumulated debris that may be encountered in the scrubbing process. The machines shall be capable of operating up a slope approximately 5% or 3 degrees with full load.

Machines must be equipped with a control method for variable rate dispensing of cleaning fluids unless otherwise specified in the Invitation For Bid.

K. BRAKES

All machines shall be equipped with service brakes capable of controlling the machine and bringing it to a quick stop. The service brake may be supplemented by a dynamic brake applied through electric or hydraulic drive. A hand or foot operated parking brake shall also be furnished.

L. OPERATOR SEAT AND CONTROLS

The machine shall have a comfortable and conveniently located operator's seat. Seat and back shall be cushioned and covered with a durable water-resistant material. All controls necessary for the safe and efficient operation shall be furnished in a location convenient to the operator. Control of forward and reverse movement and speed shall be controlled by a single foot pedal and service brake shall be foot operated.

M. ENGLISH REQUIREMENT

All written documentation including safety placards, manuals, labels, and other such written communication on or about this equipment shall be supplied in English.

IV. WARRANTY

The contractor warrants to the owner that all scrubbing machines furnished under this specification will be new and of good material and workmanship. The contractor agrees to promptly replace any part or parts, except normal wear parts, which by reason of defective material or workmanship shall fail under normal use, free of negligence or accident. Such parts replacement shall be for a period of one (1) year and labor for replacement of such parts shall be for a period of six (6) months from date of acceptance, free of any charge to the owner or his representative. All warranty work shall be performed at the location where the machine is down.

Any portion of manufacturer's standard warranty that exceeds the above warranty requirements shall be in effect on the contract.

V. SERVICE, PARTS, AND MANUALS

The contractor shall furnish one copy of owner/operator's manual containing complete operator's instructions and a spare parts list and location from which spare parts may be obtained.

VI. ACCEPTANCE EVALUATION AND QUALITY ASSURANCE

An acceptance inspection may be performed to assure that the machine is as ordered with all components and accessories supplied as ordered. An operational test may be performed to insure that the machine operates satisfactorily.

VII. DELIVERY AND PAYMENT

Delivery and payment for equipment furnished under this specification shall be in accordance with the terms and conditions stated in the Invitation For Bid. The contractor shall be responsible for any packing, packaging or protection required to insure delivery in an undamaged condition.

VIII. ORDERING DATA

Purchasers should exercise any desired option offered here and should specify the following in the requisition and Invitation For Bid.

1. Title, number and date of this specification
2. Product class
3. Brush material
4. Bumpers, if required
5. Minimum aisle width for U-turn, if required
6. Overhead protection, if required
7. Wand, if required
8. Built in battery charger or separate battery charger
9. Warranty extensions
10. Maximum machine width allowed with reference to doorway compatibility (i.e., 28" cleaning width typically used for compatibility with 36" doorways)