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USACE / NAVFAC / AFCEA / NASA UFGS-32 01 11.52 (August 2008)  
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Preparing Activity: USACE Superseding  
UFGS-32 01 11.52 (April 2006)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated July 2009

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### SECTION 32 01 11.52

#### RUNWAY RUBBER REMOVAL 08/08

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NOTE: This guide specification covers the requirements for runway rubber removal.

Edit this guide specification for project specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable items(s) or insert appropriate information.

Remove information and requirements not required in respective project, whether or not brackets are present.

Comments and suggestions on this guide specification are welcome and should be directed to the technical proponent of the specification. A listing of technical proponents, including their organization designation and telephone number, is on the Internet.

Recommended changes to a UFGS should be submitted as a Criteria Change Request (CCR).

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## PART 1 GENERAL

### 1.1 UNIT PRICES

#### 1.1.1 Measurement

Rubber removal will be measured by the number of square ~~meters~~ feet of runway to be cleaned.

#### 1.1.2 Payment

Rubber removal will be paid for at the contract unit price per square meter ~~foot~~ of runway rubber removed.

## 1.2 SYSTEM DESCRIPTION

### 1.2.1 RUBBER REMOVAL EQUIPMENT

Mechanical rubber removal equipment includes waterblasting, shotblasting, sandblasting, or other approved nonchemical systems. Control equipment to be used on asphalt or tar concrete to remove rubber accumulations and minimize disturbance to asphalt or tar mixtures. Equipment to be used on portland cement concretes shall be controlled to remove rubber accumulations and prevent removal of hardened paste from the concrete. Basic hand tools and the following major types of mechanical equipment will be considered acceptable for this project.

#### 1.2.1.1 Waterblasting Equipment

Provide mobile waterblasting equipment capable of producing a pressurized stream of water that will effectively remove rubber from the pavement surface without significantly damaging the pavement. Regulate water pressure so that substantially all rubber accumulations are removed during execution of the work.

#### 1.2.1.2 Shotblasting Equipment

Provide mobile self propelled shotblasting equipment capable of producing an adjustable depth of rubber removal and of propelling abrasive particles at high velocities on the rubber for effective removal. Each unit shall be self cleaning and self contained. Provide equipment able to confine the abrasive, any dust that is produced, and removed rubber; and capable of recycling the abrasive for reuse.

#### 1.2.1.3 Sandblasting Equipment

Provide mobile sandblasting equipment capable of producing a pressurized stream of sand and air that will effectively remove rubber from the pavement surface without filling voids with debris in asphalt or tar pavements or removing joint sealants in portland cement concrete pavements. Include with the equipment an air compressor, hoses, and nozzles of adequate size and capacity for removing all rubber. Equip the compressor with traps that will maintain the compressed air free of oil and water, and capable of furnishing a flow rate of at least 0.071 cubic meters/second 150 cubic feet/minute of air at a pressure of at least 621 kPa 90 psi at each nozzle.

#### 1.2.2 Chemical Rubber Removal Equipment

Chemical equipment shall be capable of application and removal of chemicals from the pavement surface and shall leave only non-toxic biodegradable residue.

## 1.3 SUBMITTALS

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**NOTE: Review submittal description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list to reflect only the submittals required for the project. Submittals should be kept to the minimum required for adequate quality control.**

**A "G" following a submittal item indicates that the**

submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

Choose the first bracketed item for Navy, Air Force and NASA projects, or choose the second bracketed item for Army projects.

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Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for [Contractor Quality Control approval.][information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government.] Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

#### SD-03 Product Data

##### Rubber Removal Equipment

A list of construction equipment including item names and descriptions.

##### Rubber Removal

Statements regarding the suitability of materials, personnel, and methods proposed to accomplish the work.

#### 1.4 QUALITY ASSURANCE

##### 1.4.1 Maintenance of Traffic

Coordinate the operation of equipment and the performance of work upon and in the vicinity of airfields with the Contracting Officer and with the Flight Operations Officer. Neither equipment nor personnel shall use any portion of an airfield without permission of these officers unless the runway is closed. In all cases, maintain verbal communication with the control tower before and during work in the vicinity of the airfield. The control tower shall be advised when work is completed. Runways will be closed during the following times:

Day or Date	Runway Closing Time	Runway Opening Time	Important Notes
[_____]	[_____]	[_____]	[_____]

#### 1.4.2 Landing and Take-Offs

Emergency landings and take-offs shall take precedence over all Contractor operations. When notified of an emergency situation, cease all rubber removal operations and immediately clear the runway of all equipment and personnel for a distance of at least 60 meters 200 feet from the edge of the runway.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

Deliver materials, that are required in the approved rubber removal process, in original manufacturer's containers labeled with appropriate EPA, OSHA, or other agency warnings, if applicable. Protect materials from the environment until their use is required during execution of the work.

#### 1.6 ENVIRONMENTAL REQUIREMENTS

Pavement surface shall be free of snow, ice or slush. Surface temperature shall be at least 5 degrees C 40 degrees F and rising at the beginning of operations except those involving shotblasting or sandblasting for which a lower surface temperature may be approved. Cease operation during thunderstorms. Cease operation during rainfall except for waterblasting and removal of previously applied chemicals. Cease waterblasting where surface water accumulation alters the effectiveness of material removal.

#### PART 2 PRODUCTS (Not Applicable)

#### PART 3 EXECUTION

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**NOTE: The Contracting Officer, the airport administrator and the pavements engineer will jointly develop guidelines and requirements for rubber removal operations; and will jointly evaluate the feasibility of the Contractor's methods and project compliance with applicable regulations.**  
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#### 3.1 RUBBER REMOVAL

The pavement surface may be of portland cement, tar or asphalt mixtures. Only use chemical methods which are compatible with pavement materials, the environment and working personnel. Exercise close control of water pressure and blasting time/duration to prevent disintegration damage to asphalt and tar concretes. Exercise extremely good control for porous friction courses. Demonstrate the ability to remove rubber at a touchdown area of the runway selected by the Contracting Officer; at least one site per runway will be chosen. Rubber removal shall be as complete as possible without damage to the pavement surface. The surface texture of the cleaned demonstration area will be compared to that of nonrubber traffic areas to determine satisfactory completion of the removal operation. After approval of the Contractor's operations the cleaned area will become the standard for rubber removal and final surface texture for the remainder of work.

### 3.2 CLEANUP AND WASTE DISPOSAL

Keep the worksite clean of debris and waste from rubber removal operations. Cleanup operations shall be continuous. Debris and waste materials shall be accumulated and disposed at approved sites.

-- End of Section --