

JOINT BASE LEWIS-McCHORD DESIGN STANDARDS

DIVISION 32 - EXTERIOR IMPROVEMENTS

SECTION 32 01 11.51

RUBBER AND PAINT REMOVAL FROM AIRFIELD PAVEMENTS

08/18

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SECTION 32 01 11.51

RUBBER AND PAINT REMOVAL FROM AIRFIELD PAVEMENTS

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PART 1 GENERAL

1.1 UNIT PRICES

1.1.1 Measurement

Rubber and paint removal is measured by the number of square feet of rubber and paint to be removed.

1.1.2 Payment

Rubber and paint removal is paid for at the contract unit price per square feet of rubber and paint to be removed.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1910	Occupational Safety and Health Standards
US Air Force AFI 13-213	Airfield Management
AFI 32-1026	Planning and Design of Airfields AFI 32-1042 Standards for Marking Airfields
AFMAN 32-1076	Design Standards for Visual Air Navigation Facilities
AFJMAN 32-1013v1	Airfield and Heliport Planning Criteria
AFJMAN 32-1013v2	Planning Criteria and Waivers for Airfield Support Facilities
ETL 04-2	(Change 1) Standard Airfield Pavement Marking Schemes
ETL 97-17	Paint and Rubber Removal for Roadway and Airfield Pavements

1.3 ADMINISTRATIVE REQUIREMENTS

Submit a schedule of work to the Contracting Officer. Describe the work to be accomplished; noting the location of work, distances from the ends of runways, taxiways, buildings, and other structures; and indicating dates and hours during which the work will be accomplished. Schedule the work to conform to aircraft operating schedules. The Government will try to

schedule aircraft operations so as to permit the maximum amount of time for the Contractor's work. However, in the event of any emergency, intense operational demands, adverse wind conditions, and other unforeseen difficulties, discontinue all work at locations in the aircraft operational area. Keep the approved schedule of work current and notify the Contracting Officer of any changes prior to beginning each day's work.

1.4 SUBMITTALS

NOTE: Submit Safety Data Sheets and container sizes for all hazardous materials, as well as hazardous material totals, in accordance with Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS.

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. Submit the following in accordance with Section 01 33 00

SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Schedule of work; G

Rubber and Paint Removal Process Plan; G

Waste Collection, Identification and Disposal Plan; G

Backflow Preventers Certificate of Full Approval; G

SD-03 Product Data

Mechanical rubber and paint removal equipment

Chemical rubber and paint removal equipment

Rubber and Paint Removal Detergents or Chemicals; G

SD-06 Test Reports

Test Section Results

1.5 MECHANICAL REMOVAL EQUIPMENT

Submit product data for mechanical rubber and paint removal equipment including area of coverage per pass, range of water pressures, and water tank capacity.

Mechanical removal equipment includes waterblasting, sandblasting, grinding or scarifying, or other approved non-chemical systems. Control the equipment used on asphalt or tar concrete to remove rubber and paint accumulations while minimizing disturbances to asphalt or tar mixtures. Control the equipment used on portland cement concretes to remove rubber and paint accumulations and prevent removal of hardened paste from the concrete. Basic hand tools and the following major types of mechanical equipment are considered acceptable for this project:

a. Waterblasting Equipment.

b. Grinding or Scarifying Equipment.

1.5.1 Waterblasting Equipment

Provide mobile waterblasting equipment capable of producing a pressurized stream of water that effectively removes rubber and paint from the pavement surface without significantly damaging the pavement. Provide equipment, tools, and machinery which are safe and in good working order at all times. Provide equipment interlocks to prohibit high pressure water discharge when the vehicle or cleaning head is stationary (not moving forward or side to side).

1.5.2 Grinding or Scarifying Equipment

Provide equipment capable of removing surface contaminants, paint build-up, or extraneous markings from the pavement surface without leaving any residue. If a weed torch is used to remove paint, the surface must be cleaned by hydro blast afterwards to remove surface contaminants and ash.

1.6 CHEMICAL REMOVAL EQUIPMENT

Submit product data for chemical rubber and paint removal equipment. Use chemical equipment capable of applying and removing chemicals from the pavement surface while leaving only non-toxic biodegradable residue.

1.7 TEST SECTION

Prior to the start of work, remove rubber and paint on designated test areas not less than 15 m 50 feet in length. Use procedures, water pressures, nozzle height, nozzle spacings, nozzle angle, and equipment movement rate to achieve the required degree of rubber and paint removal in accordance with Paragraph RUBBER AND PAINT REMOVAL. Methods included in paragraph COMPLIANCE TESTING will be used to determine if the rubber and] paint] was successfully removed from the test section. The test will examine seven random locations within the test section. Submit the test section results before conducting any further removal work. Provide photos of seven random locations within the test area taken before and after the removal. Provide photos of four random locations at joint seals within the test area taken before and after removal.

1.8 DELIVERY, STORAGE, AND HANDLING

Deliver required materials in original manufacturer's containers labeled with appropriate EPA, OSHA, or other agency warnings, if applicable, and Safety Data Sheets. Protect materials from degrading until their use is required during execution of the work.

1.9 PROJECT/SITE CONDITIONS

1.9.1 Environmental Requirements

Ensure pavement surface is free of snow, ice or slush. Ensure surface temperature is at least 40 degrees F and rising at the beginning of operations. Cease operation during thunder, lightning storms, or when the pavement is covered with snow or ice. 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.

1.9.2 Airfield Traffic Control

Coordinate performance of all work in the controlled zones of the airfield with the Contracting Officer and with the Flight Operations Officer or Airfield Manager. Neither equipment nor personnel can use any portion of the airfield without permission of these officers unless the runway is closed. Runways will be closed during the following times:

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

1.9.3 Radio Communication

- a. No personnel or equipment will be allowed on the runway until radio contact has been made with the Control Tower and permission is granted. The performance of work in the controlled zones of airfields shall be coordinated with the KO and with the Flight Operations Officer. Verbal communications shall be maintained with the control tower before and during work in the controlled zones of the airfield. The control tower shall be advised when the work is completed. A radio for this purpose will be provided by the Government.
- b. Work on JBLM McChord Field will be performed in the controlled zones of the airfield. All access to or through the base shall be coordinated with the Quality Assurance or Project Manager. All access to or through the airfield shall be coordinated with the Chief of Airfield Management.
 - (1) When within the radio-controlled areas of the airfield, the contractor shall maintain continuous verbal and visual contact with the control tower. The contractor shall verbally inform the control tower and the Chief of Airfield Management when the work has been completed and all equipment, labor, and materials have been removed from the airfield.
 - (2) It is the intention of the Government to close the runway to all aircraft traffic while rubber is being removed. However, work may be interrupted to provide a runway for aircraft in an emergency or when a special or unscheduled mission is assigned. If the runway is needed for aircraft operations, the contractor shall remove all equipment from the operational surfaces of the airfield and beyond the hold line within 15 minutes of notification to clear the runway. A scheduled landing or departure that has been identified to the contractor prior to the start of the contractor's work shift shall not be considered an interruption.
 - (3) Debris Removal: The contractor shall clear debris caused by the contractor from the runway and access surface as the work proceeds.

1.9.4 Emergency Landing and Takeoff

Emergencies shall take precedence over all contractor operations. Upon notification from the Control Tower of an emergency landing or imminent takeoff, all operations shall be stopped immediately and all personnel and equipment evacuated to an area not utilized for aircraft traffic which is at least 200 feet measured perpendicular to and away from the near edge of the runway. The contractor shall remove all equipment from the operational surfaces of the airfield and beyond the hold line within 15 minutes of notification to

clear the runway.

1.9.5 Airfield Lighting

When night operations are necessary, provide all necessary lighting and equipment. Direct or shade lighting to prevent interference with aircraft, the air traffic control tower, and other base operations. Provide lighting and related equipment capable of being removed from the runway within 15 minutes of notification of an emergency. Night work must be coordinated with the Flight Operations Manager or Airfield Manager and approved in advance by the Contracting Officer or authorized representative.

1.9.6 Water

Water to be used for high-pressure water equipment will be made available from Government hydrant[s] at the prevailing rates. Furnish equipment and labor for delivery of water from the hydrant to the job site. Notify the Contracting Officer on location of fire hydrant[s] to be used and the respective times of use. The Contracting Officer will notify the Fire Department of fire hydrants to be used and designated times of use. Connections to a fire hydrant will be subject to the Contracting Officer's inspection and approval. The Contractor must provide and use a backflow prevention device for filling water tanks. The Contractor is responsible for testing, treating, and filtering the water to ensure it will not interfere with the rubber removal or damage or clog the rubber removal equipment.

1.10 SAFETY

Comply with OSHA 29 CFR 1910.

PART 2 PRODUCTS

NOTE: Ensure all materials are authorized by JBLM DPW Environmental Division in accordance with Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS prior to being brought on base. Report product totals and store, handle, use, and transport materials in accordance with Section 01 57 19.

2.1 RUBBER AND PAINT REMOVAL DETERGENTS OR CHEMICALS

The use of environmentally acceptable detergents or chemical agents must be considered on a case-by-case basis. Submit the Safety Data Sheet (SDS) and container size(s) for detergents or chemicals in the rubber and paint removal process in accordance with Section 01 57 19 TEMPORARY ENVIRONMENTAL CONTROLS. Use of any detergents or chemicals in the rubber and paint removal process must be approved in advance by the Contracting Officer. The Government specifically reserves the right to reject the use of any process which the Contracting Officer determines may pose unnecessary risks to human health, the environment, the pavement, aircraft or NAVAIDS due to corrosion or foreign object damage (FOD) potential as a result of its use, storage, or disposal.

PART 3 EXECUTION

3.1 RUBBER AND PAINT REMOVAL

Prior to any work being completed, submit a Rubber and Paint Removal

Process Plan for approval by the Contracting Officer.

- a. The pavement surface type is portland cement concrete and asphalt mixture as indicated.
- b. Remove 90 percent of all visible rubber on portland cement concrete pavements and 85 percent of all visible rubber on asphaltic concrete pavements. Remove 85 percent of paint on portland cement and asphaltic concrete pavement. Remove all paint that is loose, flaking, chalky, or not to be re-marked or does not comply with size or pattern standards.
- c. Chemical methods used must be compatible with pavement materials, the environment and working personnel.
- d. Exercise close control of water pressure and blasting time/duration to prevent damage to joints, existing markings that are not intended for removal, or the wearing surface. Neither hydro blasting or abrasive blasting may be used for rubber removal on porous friction courses.
- e. 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 must not damage the pavement surface. The surface texture of the cleaned demonstration area will be compared to that of non-rubber traffic areas to determine satisfactory completion of the removal operation.
- f. After approval of the Contractor's operations by the Contracting Officer, the cleaned sample area will become the standard for rubber removal and final surface texture for the remainder of work.
- g. Compliance testing for the amount of rubber and paint to be removed must conform to the requirements in paragraph COMPLIANCE TESTING.

3.2 RATE OF REMOVAL

Remove rubber at a minimum rate of 15,000 square feet per hour. Do not permit high-pressure water application to remove the existing pavement surface. Do not permit high-pressure water application to remove the existing pavement surface, joint seals or crack seals.

3.3 WATER PRESSURE

Provide water pressure impact upon the indicated pavement areas sufficient to remove the designated rubber and paint to the required degree of removal without damaging the existing pavement joint sealant, and other airfield appurtenances. Contractor shall be responsible for repairing any damage caused by the removal work. Rubber shall be removed by high-pressure water and/or detergents. The contractor may inject sand as an abrasive into the high-pressure water system. The use of environmentally acceptable chemical agents or high velocity impact removal shall be considered on a case-by-case basis. Use of any chemicals or impact abrasive in the removal process must be approved in advance. The Government specifically reserves the right to reject the use of any rubber removal process that is determined to pose unnecessary risks to aircraft due to FOD potential, human health, or the environment as a result of its use, storage, or disposal.

3.4 CLEANUP AND WASTE DISPOSAL

Keep the worksite clean of by-products, debris and waste from rubber and paint removal operations. Perform cleanup operations continuously. Remove all residue from the pavement. Obtain the approval of residue removal and disposal method from the Contracting Officer prior to beginning work. Submit a Waste Collection, Identification and Disposal Plan describing proposed actions regarding waste collection, control, identification, and disposal to the Contracting Officer's Representative for approval prior to the start of work. The plan will address disposal methods and requirements for hazardous and non-hazardous wastes.

3.5 COMPLIANCE TESTING

- a. Compliance with the rubber and paint removal requirements must be determined by direct testing within the designated work area.
- b. Use a one square foot section of transparent material inscribed with a grid of 100 equal squares as a tool for quantitative measure of the percent removal. Place the grid pattern on the pavement surface at random locations. Then count the squares which contain rubber and/or paint deposits. The number of squares containing rubber and/or paint deposits must not exceed the allowed percentage in each of the randomly selected locations.
- c. Divide each work area designated for rubber and paint removal into at least four equal zones for the purpose of compliance testing. The layout of each zone must be approved by the Contracting Officer. Within each zone, a minimum of seven random locations must be evaluated. The amount of rubber and paint removed at each of the randomly selected test locations within each zone must meet the requirement described in paragraph RUBBER AND PAINT REMOVAL. Evaluate each zone independently. A zone not meeting the required percentage must be recleaned by the Contractor at the Contractor's expense.
- d. Deposits of rubber or rubber buildup and paint are defined as any surface deposit that can be removed by scratching the deposit with a flat sharp object (such as a pocket knife) without damaging the pavement surface. Stains are defined as materials in the pavement surface microtexture that cannot be removed without damaging the pavement surface. Stain is generally embedded in the surface of the pavement below the horizontal plane of the surface texture. The Contractor is not responsible for stain removal.

3.6 DAMAGE REPAIR

Repair any damage to the pavement surface, joint, joint and crack seals, or other Government property caused during the performance of the work at the Contractor's expense. Submit a repair plan to include methods and material to the Contracting Officer's Representative for approval prior to performance of the repairs. Complete the repairs within the performance period of the Contract.

-- End of Section --