



Specification (H/A0708001)

Asphalt Re-texturing; High Velocity Impact Method (HVIM)

1. Description

This specification deals with the requirements for the retexturing of asphalt pavements used in both highways and airfield applications.

The material types and surface characteristics that can be successfully treated and the machinery and contractor requirements that should be specified in order to successfully retexture asphalt effectively and efficiently.

The test methods and specification that should be employed to demonstrate that satisfactory improvements to macro and micro-texture have been achieved, as defined by the overseeing authority are included in appendix A.

(For UK specifiers this table (or an abridged version) can be included in the contract appendix 7/1)

2. Asphalt Types

Bituminous asphalt types that can be re-textured include (but are not limited to) the following:

- Asphaltic concrete
- SMA (Stone Mastic Asphalt)
- Airfield SMA
- Hot Rolled Asphalt (inc. Pre-coated Chippings)
- Proprietary Thin Surface Course Systems (UK CI942, BBA HAPAS)
- Marshall Asphalt
- Mastic Asphalt
- HMA Surface Course

3. Surface Characteristics

Asphalt surfaces requiring re-texturing normally exhibit one or more of the following characteristics:

- Newly laid asphalt:
 - Low early life friction (skidding resistance) caused by surface binder film reducing microtexture exposure to vehicle tyres. (All types)
 - Early life macrotexture loss giving a higher risk of aquaplaning caused by binder migration into surface texture. (Particularly SMA's & TSCS's)



- Trafficked asphalt:
 - Low friction (skidding resistance) caused by surface aggregate polishing reducing microtexture exposure to vehicle tyres. (All types)
 - Macrottexture loss giving a higher risk of aquaplaning caused by binder migration into surface texture, aggregate re-orientation, gritting, presence of rubber / road film and dirt.
- Airfield Asphalt:
 - Low early life friction (skidding resistance) caused by surface binder film reducing microtexture exposure to vehicle tyres. (All un-grooved types)
 - Early life macrottexture loss giving a higher risk of aquaplaning caused by binder migration into surface texture. (Particularly SMA's & TSCS's)
 - Low friction (skidding resistance) caused by surface aggregate polishing reducing microtexture exposure to aircraft tyres. (All types)
 - Macrottexture / Microtexture loss giving a higher risk of aquaplaning caused by presence of rubber deposits and dirt.

4.0 Method

4.1 Asphalt Retexturing

The Asphalt Surface Course shall be cleaned and re-textured to generate the appropriate levels of both Microtexture and Macrottexture which shall exceed the minimum investigatory levels of skid friction using the appropriate agreed test methods as defined in Table 1 appendix A.

It is essential that the cleaning / re-texturing process is not detrimental to the structural integrity of the surface course and that there is minimum loosening or loss of aggregate particles.

The process must be a fully Closed Circuit Blasting System with minimum emission of particles to atmosphere. All dust and debris must be held within the system and disposed of off site to a suitable disposable system.

Whenever possible all removed material should be recycled.

Blast media to be round steel shot. Blast media size, machine settings and forward speed to be determined by site testing and set in accordance with the requirements to achieve the required visual effect and texture / skid resistance.

No water, chemicals or solvents, are to be used in the process and no pollutants or dust is to be emitted to the atmosphere during the process.



The texture depth and skid resistance requirements will be stated for each individual site and or section to be blasted. These will vary according to Surface Course material, aggregate properties and road category and will be agreed with the contractor prior to work starting.

All treated areas will be magnetically swept and visually inspected before leaving site and signed off by the certificated operator as being clean / clear.

All operators will be fully trained and certificated.
(An exception may be given in the event of a trainee operator, provided that only one being allowed on site at any time, and that the trainee is in addition to the normal crew and that they are fully supervised at all times.)

4.2 Airfield Retexturing – Rubber Removal

The Runway Surface shall be cleaned to remove rubber deposits and other contamination and re-textured to generate the appropriate levels of both Microtexture and Macrotexture which shall exceed the minimum investigatory levels of skid friction using the appropriate agreed test methods as defined in Table 1 appendix A.

It is essential that the cleaning / re-texturing process is not detrimental to the structural integrity of the surface course and that there is minimum loosening or loss of aggregate particles.

The process must be a fully Closed Circuit Blasting System with minimum emission of particles to atmosphere. All dust and debris must be held within the system and disposed of off site to a suitable disposal/recycling system.

Whenever possible all removed material should be recycled.

Blast media to be round steel shot. Blast media size, machine settings and forward speed to be determined by site testing and set in accordance with the requirements to achieve the required level of removal and texture / skid resistance.

No water, chemicals or solvents, are to be used in the process, no pollutants or dust are to be emitted to the atmosphere during the process and no debris of any kind is to be deposited or left on the runway surface.

The texture depth and skid resistance requirements will be stated for each individual site and or section to be blasted. These will vary according to Surface Course material and aggregate properties and will be agreed with the client prior to work starting.

All treated areas will be magnetically swept and visually inspected before leaving site and signed off by the certificated operator as being clean / clear.



All operators will be fully trained and certificated.
(An exception may be given in the event of a trainee operator, provided that only one being allowed on site at any time, and that the trainee is in addition to the normal crew and that they are fully supervised at all times.)

5.0 Contractor Qualification & Approval

Contractors and operators must be fully trained and certificated and hold a current certificate of competence issued by an appropriate professional body, and covering all aspects of the method employed.

5.1 Site Survey Prior to Works

The contractor is responsible for carrying out a site survey prior to accepting the contract in order to be satisfied that the proposed work is suitable for the surface type and condition and will meet the specified requirements.

5.2 Risk Assessment

The contractor is responsible for carrying out a full site specific risk assessment prior to commencing the contract.

5.3 Method Statement

A full method statement will be made available to the client for approval before work commences. All operators will be fully briefed on the method statement and have signed the register to show this. The method statement will be available on site at all times.

5.4 Inspection and Testing

The inspection and testing regime will be agreed prior to commencement of the contract and may be either static or CFME. All measuring / testing will be carried out to an approved standard. Test results for highways will meet the requirements of HD/2804 unless specifically varied by the overseeing authority. Test results for airports will meet the requirements of FAA advisory circular 150-5320 unless specifically varied by the overseeing authority.



5.5 Waste Management and Environmental Protection

Collection, transfer and disposal of waste will be carried out by a registered waste carrier, waste transfer notes will be recorded as will final destination of waste material. Local waste management regulations will be included with the method statement and complied with. Wherever possible the removed dust will be fully recycled. The site specific method will form part of the method statement.

Emergency spill and containment equipment will be on site at all times during works.

Appendix A

Table 1 - Inspection and Testing Asphalt Surface Course Properties

Property Measured	Test Method Standard Reference	Test Method Standard Name	Note
Skid Resistance	BS7941-1:2006	SCRIM	
	BS7941-2:2000	Griptester	
	BSEN 13036-4:2002	Pendulum Skid Tester	
Texture Depth	BSEN13036-1:2002	Sand Patch Test	
Surface Drainability	BSEN13036-3:2002	Hydrotimer	

End