Hanson
HEIDELBERGCEMENT Group

Hanson Asphalt

Innovation keeps us on top

Product overview

Our high quality asphalt solutions have been developed to be the ideal choice for a wide range of surfacing applications, from major civil engineering projects to domestic driveways and footpaths.

The three key product groups – Tuffgrip®, Durafalt® and Hanson era® – have their own unique qualities and characteristics, and all are backed by the strength and durability of the Hanson brand, with a reputation built on more than 60 years of quality and service.

Asphalt sustainability

We have taken measures to reduce primary aggregates used in our products. Additionally, most of our plants now use reclaimed asphalt across the range. This is part of Hanson's sustainable approach.

We have also introduced 'moving floor' vehicles to our delivery fleet. Their remote controlled, 'no tipping' design allows for a more measured release of asphalt. As well as enhancing safety and improving tunnel and under-bridge access, their 40% larger capacity means fewer and more efficient road movements.

As part of our ongoing innovation and drive to be sustainable, we have developed a new greener asphalt solution – Hanson era®. Through a unique production process, Hanson era® reduces the carbon emissions associated with asphalt production for road-laying by up to 50%.

All of our asphalt solutions are accredited to the environmental standard ISO 14001 and to responsible sourcing standard BES 6001. They are also 'CE' marked in accordance with the Construction Products Regulation.

We also comply with quality management system ISO 9001 and have BBA HAPAS approval for our thin surfacing products. Our contracting team are National Highway Sector Scheme 16-accredited.

For further information, please contact
asphaltsales@hanson.com

Effective resource and waste management is at the heart of how we operate our UK asphalt plant network.

UKAS TESTING 0812

ISO 9001 CPC Construction Products Certification UKAS MANAGEMENT SYSTEMS 009

ISO 14001 CPC Construction Products Certification UKAS MANAGEMENT SYSTEMS 009

BES 6001 Responsible Sourcing
www.greenbooklive.com

Tuffpave®

Technical data sheet

Tuffpave® is an approved (SHW Clause 942), polymer modified thin surfacing system that can be laid by any certified licensed laying contractor.

It uses the same distinctive ingredients as Tuffgrip®, and performs to the same high standards on noise and spray reduction, as well as skid resistance, while delivering an excellent ride quality. It has been designed as a gap-graded mixture containing a high percentage of coarse aggregate bound by the Polymer Modified Binder (PMB). The coarse aggregate provides an interlocked framework giving excellent resistance to deformation, while the PMB ensures maximum durability.

The mix design and choice of aggregate size provide a texture depth that is retained throughout the life of the surfacing, and gives significant reduction in noise over more traditional surfacings, such as Hot Rolled Asphalt (HRA) and concrete.

Benefits

The main advantages of Tuffpave® when used as a maintenance treatment, either as inlay or overlay or as a surface course for new construction, are:

- Restores texture and skid resistance
- Excellent resistance to deformation
- Enhanced ride quality
- Excellent noise reduction
- Excellent spray reduction
- Provided as a system – Hanson manage the approval process

Tuffpave® technical data

Coarse aggregate	
Los Angeles abrasion value	30 max
Aggregate abrasion value	As specified in SHW Clause 942 (Appendix 7.1)
Flakiness index	20 max (6mm 30 max)
Nominal sizes	6mm; 10mm; 14mm
Binder	High performance Polymer Modified Binder (PMB)
Layer thickness Details of constituent quality and layer thickness shown below	
6mm nominal size	20 – 30mm
10mm nominal size	25 – 50mm
14mm nominal size	35 – 50mm
Surface texture (on installation)	
10mm medium texture	1.1 – 1.6 mm
14mm medium texture	1.3 – 1.8 mm
	(All HE Clause 942 Level 3)
Road and laboratory test results	
Torque bond	Typical figures +800 KPa
Noise reduction	HE Clause 942
Wheeltracking (BS EN 12697 – 22 procedure B category WTS Air 1,0)	HE Clause 942 Level 3
Water sensitivity (retained stiffness)	Minimum 80%
Stiffness	>1500 MPa (6mm) >2000 MPa (14/10mm)

Various options are available within the Tuffgrip® and Tuffpave® range – please contact the asphalt technical team at **asphaltsales@hanson.com** to discuss your requirements.

Use this product for

- ✓ **Highways/motorways**
- ✓ **Major paved areas**
- ✓ **Local Authority Networks**

Duralayer Multi® and Duralayer Multi®+

Technical data sheet

Duralayer Multi is a close textured, single layer application which is suited to a variety of asphalt surfacing applications where a low textured and deformation resistant one layer treatment is required.

It was designed following a request from a Local Authority for a cost-effective, single layer solution. It utilises locally-sourced aggregates and for a variety of applications including major roads, rural roads, housing estates, car and caravan parks. Duralayer Multi® can be used for a variety of applications. The material has a low surface texture and low air voids, which results in material that doesn't segregate like traditional binder course materials, therefore protecting lower layers from water ingress.

Duralayer Multi® is available in 20mm, 14mm, 10mm and 6mm sizes and is laid using conventional paving equipment in line with BS 594987.

Duralayer Multi®+

As per Duralayer Multi® but also provides enhanced fuel resistance.

Layer thickness

Details of constituent quality and layer thickness shown below:

- 6mm nominal size 30 – 60mm
- 10mm nominal size 40 – 80mm
- 14mm nominal size 50 – 100mm
- 20mm nominal size 60 – 120mm

Benefits

The main advantages of Dura Multi® when used as a maintenance treatment, either as inlay or overlay or as a surface course for new construction, are:

- Dense asphalt concrete grading, low voids
- Prevents water ingress
- Dense grading enhances fatigue resistance
- Resistance to deformation
- Sustainable product
- Our Dura Multi®+ mix has fuel resisting properties

Duralayer Multi® technical data

Coarse aggregate	
Los Angeles abrasion value	30 max
Aggregate abrasion value	10 max
Flakiness index	20 max (6mm 30 max)
Nominal sizes	20mm; 14mm; 10mm; 6mm
Binder	40/60 pen 100/150 pen
Layer thickness	
30mm to 120mm	
Typical performance figures	
Wheeltracking (BS EN 12697 – 22 procedure B category WTS Air 1,0)	Wheeltracking slope: 0.2mm/10^3 cycles
Water sensitivity (retained stiffness)	Minimum 80%
Stiffness	3,000 MPa (depending on binder grade)

*Typical value for surface texture. Please contact the asphalt technical team at **asphaltsales@hanson.com** for further information.

Use this product for

- ✓ All classifications of roads
- ✓ Housing estates
- ✓ Car and caravan parks
- ✓ Footpaths
- ✓ Trenches

Tufflex®

Technical data sheet

High performance materials deliver a multi-layer crack resisting binder/surface course that is particularly suited to overlaying concrete carriageways.

Compared to traditional asphalt surfacing, Tufflex® offers high deformation resistance and a low air void content. The solution also delivers Highways England's highest level of wheel rut resistance, level three. Its design uses specialised bitumens and incorporates best-in-class polymer technology to give it a flexibility that enhances fatigue resistance by absorbing traffic vibration. With its relatively low surface texture and designed low voids content, Tufflex® effectively protects the surface it covers from water ingress.

It is available in 6mm, 10mm, 14mm and 20mm nominal sizes and can be laid between 25mm and 150mm thick using a traditional asphalt paver with a 6-10 tonne roller. As a single layer application Tufflex® can halve the installation time of traditional materials, reducing disruption to local services and traffic. Special attention should be given to compaction at the joints, which should be cut and painted with a bituminous joint paint to maintain resistance to the tensile stresses of turning vehicles. Installation should be in accordance with BS 59487.

Tufflex®+

Enhanced fuel resisting properties.

Tufflex® XD

Tufflex® XD is an extra dense solution with a higher bitumen content for sites with lower texture depth requirements.

Layer thickness

Details of constituent quality and layer thickness shown below:

- 6mm nominal size 30 – 60mm
- 10mm nominal size 40 – 80mm
- 14mm nominal size 50 – 100mm
- 20mm nominal size 60 – 120mm

Benefits

- A best-in-class flexible Polymer Modified Binder (PMB)
- Road engineers will benefit from the option of a multi-layer crack resisting asphalt solution
- Cost-effective over the whole life
- Quick installation – single layer application
- Prevents water ingress
- Highly sustainable and durable, and offers improved performance over conventional asphalt materials
- Increased flexibility

Tufflex® technical data

Typical material properties	Test spec	Typical values
Air voids	BS EN 12697-5, 6 & 8	≤ 5%
Voids at refusal	BS EN 12697-5, 6, 8 & 32	≤ 2%
Stiffness	BS EN 12697-26 Annex C	3,000 MPa (Tufflex®) 7,000 MPa (Tufflex® HD)
Wheeltracking	BS EN 12697-22 SA, Proc. B, in air	Rut depth: 3mm Wheeltracking slope: 0.1mm/10^3 cycles
Water sensitivity (Duriez)	NF P98-251-1	0.85
Fatigue (ITFT*)	BS DD ABF	≥100,000 cycles to failure @ 100μstrain

*Please contact the asphalt technical team at **asphaltsales@hanson.com** for ITFT data.

Use this product for

- ✓ Overlay of concrete carriageways
- ✓ Urban roads
- ✓ Rural roads
- ✓ Industrial areas

Tufflex® HD / HD+

Technical data sheet

Tufflex® HD / HD+ is a unique asphalt surfacing solution designed for very heavy, slow moving traffic. It contains a Polymer Modified Binder (PMB) with an exceptionally high softening point.

A PMB is at the heart of a unique solution that offers good protection against damage caused by heavy, slow moving traffic. The product also contains fuel resisting properties.

Benefits

The main advantages of Tufflex® HD are:

- Cost-effective over the whole life
- Very high deformation resistance
- Low air void which prevents water ingress
- Fuel resisting properties
- Good workability
- Has a resistance to elevated temperatures from chemical attacks from leachates
- Good load spreading ability from very heavy, slow moving traffic at higher temperatures to prevent wheel track deformation
- Increased stiffness

The main advantages of Tufflex® HD+ are:

- Increased stiffness over Tufflex HD
- Enhanced fuel resisting properties

Please note: 7 days' notice required to stock specialist binder.

Tufflex® HD / HD+ technical data

Typical material properties	Typical result	Spec limits	Report reference
Maximum density (Mg/m³)	2.499	-	MXD81-16
Bulk density – reference (Mg/m³)	2.399	-	BD150-16
Air void content – reference (%)	4.0	≤5	
Stiffness (MPa)	8,883	-	SM41-16
ITFT* (cycles to failure @ 100µstrain)	TBC	-	FT5-16
Duriez	0.92	≥0.80	DT7-16
Bulk density (Proc. D) – WT slabs (Mg/m³)	2.384	-	BD183-16
Air void content – WT slabs (%)	4.6	-	
Mean proportional rut depth (30,000 cycles) – % (large device WT)	4.7	-	WT51-16
Refusal density (Mg/m³)	2.449	-	RD15-16
Voids at refusal (%)	2.0	≥0.5	

*Please contact the asphalt technical team at **asphaltsales@hanson.com** for ITFT data.

Use this product for

- ✓ Carriageways
- ✓ Farm floors/composting areas
- ✓ Industrial areas
- ✓ Lorry parks and bus stations

RESISTANCE TO DEFORMATION

FUEL RESISTING PROPERTIES

ENHANCED DURABILITY/ HEAVY DUTY

INCREASED STIFFNESS

Tufflex® TX

Technical data sheet

Tufflex® TX is a highly flexible, deformation resistant surface course treatment for roads.

Tufflex® TX delivers Highways England's highest rating wheel track deformation – level three. It uses a Polymer Modified Binder (PMB) offering excellent wet weather spray reduction, noise reduction and enhanced ride quality.

Tufflex® TX is compliant with EN 13108 – 5 and is suitable for a range of sites from rural to urban to industrial where SMAs are traditionally laid.

Tufflex® TX can be laid by any competent contractor in accordance with BS 595987, is available in 10mm and 14mm nominal sizes and can be laid between 30mm and 80mm thick.

Installation

By competent contractor in accordance with BS 594987.

Benefits

- Achieves Highways England's highest wheel rutting resistance, level three
- Deformation resistance
- Greater noise reduction compared to Hot Rolled Asphalt (HRA) with Pre-Coated Chippings (PCC)
- Better spray reduction than HRA and PCC

Tufflex® TX technical data

Typical material properties	Typical result
Air voids	≤ 5%
Stiffness	2,250 MPa (typical)
Nominal sizes	14mm; 10mm
Binder	High performance Polymer Modified Binder (PMB)
Layer thickness (recommended)	35mm to 100mm
Surface texture (sand patch, immediately after laying)	0.8 – 1.8mm
Wheeltracking (BS EN 12687 – 22 procedure B category WTS Air 1,0)	Wheeltracking slope: 0.0mm/10^3 cycles
Water sensitivity (retained stiffness)	Minimum 80%

For further information, please contact **asphaltsales@hanson.com**

Use this product for

- ✓ Low speed residential roads
- ✓ Roundabouts
- ✓ Industrial and commercial use
- ✓ High stress sites

Tuffgrip®

Technical data sheet

Tuffgrip® is our established thin surfacing system and is produced in accordance with SHW Clause 942. It was jointly developed with BP for highways and other paved areas.

It uses high quality Polished Stone Value (PSV) aggregates and our approved specially-developed Polymer Modified Binder (PMB). Tuffgrip® is tough on noise, skid resistance and wet weather spray. It is also tough enough to stand up to heavy traffic yet provide an ultra-smooth ride. Tuffgrip® is laid only by our contracting division and comes with a five-year guarantee underwritten by the contractor (Clause 942).

The mix design and choice of aggregate size provide a texture depth that is retained throughout the life of the surfacing, and gives significant reduction in noise over more traditional surfacings, such as Hot Rolled Asphalt (HRA) and concrete. It is available in a range of aggregates and PSVs.

Installation

Installation by licensed laying contractor in line with SHW Clause 942 and BS 594987 requirements.

Benefits

The main advantages of Tuffgrip® when used as a maintenance treatment, either as inlay or overlay, or as a surface course for new construction, are:

- Restores texture and offers skid resistance
- Excellent resistance to deformation
- Enhanced ride quality
- Reduced noise
- Excellent spray reduction
- Provided as a system – Hanson manage the approval process

Tuffgrip® technical data

Coarse aggregate	
Los Angeles abrasion value	30 max
Aggregate abrasion value	As specified in SHW Clause 942 (Appendix 7.1)
Flakiness index	20 max (6mm 30 max)
Nominal sizes	6mm; 10mm; 14mm
Binder	High performance Polymer Modified Binder (PMB)
Layer thickness Details of constituent quality and layer thickness shown below	
6mm nominal size	20 – 30mm
10mm nominal size	25 – 50mm
14mm nominal size	35 – 50mm
Surface texture (on installation)	
10mm medium texture	1.1 – 1.6mm
14mm medium texture	1.3 – 1.8mm
	(All HE Clause 942 Level 3)
Road and laboratory test results	
Torque bond	Typical figures +800 KPa
Noise reduction	HE Clause 942
Wheeltracking (BS EN 12697 – 22 procedure B category WTS Air 1,0)	HE Clause 942 Level 3
Water sensitivity (retained stiffness)	Minimum 80%
Stiffness	>2,000 MPa (14/10mm) >1,500 MPa (6mm)

For further information, please contact **asphaltsales@hanson.com**

Use this product for

- ✓ Highways/motorways
- ✓ Major paved areas
- ✓ Local Authority Networks

Tufflex® D

Technical data sheet

Developed in line with Transport for Scotland methodology, this low void, high bitumen content Stone Mastic Asphalt (SMA) designed product is ideal for sites where safety and reduced noise are paramount but also where a whole life cost saving is required through the use of more durable products.

Compared to traditional asphalt surfacing, Tufflex® D offers texture, high deformation resistance and a very low air void content. The solution also delivers Highways England's highest level of wheel rut resistance, level three. Tufflex® D's design uses specialised binders and incorporates best-in-class polymer technology. With its optimum surface texture of approximately 1.1mm and designed low voids, it effectively protects the surface it covers from water ingress.

It is available in 6mm, 10mm and 14mm nominal sizes and can be laid between 25mm and 50mm thick using a traditional asphalt paver with a 6-10 tonne roller. Laying Tufflex® D can reduce the installation time of traditional materials reducing disruption to local services and traffic. Special attention should be given to compaction at the joints, which should be cut and painted with a bituminous joint paint to maintain resistance to the tensile stresses of turning vehicles. Installation should be in accordance with BS 59487 with the optional addition of a 1-4mm grit or coated grit immediately behind the paver to enhance early life skid resistance.

Benefits

- A best-in-class flexible Polymer Modified Binder (PMB)
- Suitable for any class of road network
- Cost-effective over the whole life
- Quick installation
- Prevents water ingress
- Highly sustainable and durable, and offers improved performance over conventional asphalt materials
- Increased stiffness

Tufflex® D technical data

Typical material properties	Test method	Typical values	Spec
ITSM	BS EN 12697-26: 2004 Annex C	3,091	N/A
Compacted voids	BS EN 12697-6: 2012 procedure C (sealed)	3.1	< 4%
Maximum density (kg/m³)	BS EN 12697-5: 2002 A	2,423	N/A
Binder drainage	DD232: 1996 Method 8.3	0.1	0.3 max
Water sensitivity	BS EN 12697-30: 2012	88.5	80 min

Resistance to permanent deformation

Typical material properties	Test method	Typical values	Spec
Slope (mm/10³ cycles)	BS EN 12697-22: 2003 procedure B	0	< 1.0
Wheel tracking rut depth (mm)	BS EN 12697-22: 2003 small device, procedure B in air	1.2	N/A
Proportional rut depth (% at 10³)	BS EN 12697-22: 2003 procedure B	2.4	N/A

For further information, please contact **asphaltsales@hanson.com**

Use this product for

- ✓ Trunk roads
- ✓ Urban roads
- ✓ Local Authority Network

Tuffdrive®

Technical data sheet

Tuffdrive® is an asphalt surfacing material specially designed to withstand the rigours of power-steering and heavy use on residential driveways and parking areas.

It is also ideally suited to new-build housing projects where a contractor wants to offer a high performance, durable, value for money driveway surface course.

Tuffdrive® uses the same distinctive ingredients as our flagship brand Tuffgrip®, including a specially-formulated polymer modified bitumen, and can be laid by any competent contractor.

For superior fuel resisting properties and compactability, we offer an alternative solution – **Tuffdrive®+**.

Installation

In accordance with BS 594987.

Benefits

- Deformation resistance
- Increased scuff resistance
- Cost-effective over the whole life
- Fuel resisting properties (only applicable to Tuffdrive®+)

Tuffdrive® technical data

Coarse aggregate	
Los Angeles abrasion value	30 max
Aggregate abrasion value	10 max
Flakiness index	20 max (6mm 30 max)
Nominal sizes	6mm; 10mm
Binder	High performance Polymer Modified Binder (PMB)
Layer thickness (recommended)	
6mm Tuffdrive®	20mm to 30mm
10mm Tuffdrive®	30mm to 40mm
Road and laboratory test results	
Wheeltracking (BS EN 12697 – 22 procedure B category WTS Air 1,0)	Wheeltracking slope: 0.1mm/10^3 cycles (typical)
Stiffness	3,000 MPa (typical)

For further information, please contact **asphaltsales@hanson.com**

Use this product for

- ✓ Residential driveways
- ✓ Parking areas

FUEL RESISTING PROPERTIES (TUFFDRIVE®+ ONLY)

RESISTANCE TO DEFORMATION

INCREASED SCUFF RESISTANCE

ENHANCED DURABILITY/ HEAVY DUTY

Tuffdrain®

Technical data sheet

Tuffdrain® has been designed for excellent drainage and durability. It's an asphalt material developed for use in Sustainable Urban Drainage Systems (SUDS).

The solution works in line with current planning requirements by managing rainfall for a wide range of applications including porous or ground water storage technology.

Tuffdrain® helps to prevent localised flooding following periods of prolonged heavy rainfall and with its unique design, using a premium Polymer Modified Binder (PMB), it provides a durable free-draining solution that out-performs traditional open textured AC materials. Tuffdrain® delivers up to 15 times better drainage than that specified for porous asphalt when measured by the hydraulic conductivity test. It also has inherent durability through the thick PMB binder film.

Installation

When laid in accordance with BS 594987, the aggregate matrix is locked together and further held by the excellent adhesive properties of the PMB. Installers should be experienced in the use of SUDS solutions with attention given to the foundation, drainage characteristics and traffic loading.

Tuffdrain®+

For increased stiffness where a degree of fuel resistance may be required.

Tuffdrain® HD

For higher stress areas where the drainage is required in line with highest levels of performance.

Benefits

- Excellent drainage
- Enhanced durability
- Quicker installation
- Increased stiffness

Please note: lead in time may be required for specialist bitumen.

Tuffdrain® technical data

Coarse aggregate	
Los Angeles abrasion value	30 max
Aggregate abrasion value	15 max
Flakiness index	20 max (30 max for 6mm only)
Nominal sizes	6mm; 10mm; 14mm; 20mm
Binder	High performance Polymer Modified Binder (PMB)
Road and laboratory test results	
Voids	10mm Vmin 14, 20mm Vmin 14
Stiffness	10mm 900 MPa (typical), 20mm 2,000 MPa
Hydraulic conductivity	10mm 15,000 mm/hr (typical), 20mm 20,000 mm/hr

For more information on our SUDS range of aggregates (Aggflow) used within the Tuffdrain® mix, please contact the aggregates technical team at **aggregatesales@hanson.com**

Use this product for

- ✓ SUDS applications
- ✓ Sport surfaces

Hot Rolled Asphalt and Pre-Coated Chippings

Technical data sheet

Hanson's Hot Rolled Asphalt (HRA) product range includes Clause 943 Hot Rolled Asphalt Surface Course and Binder Course (Performance-Related Design Mixtures).

HRA is a dense, gap graded asphalt designed to be used in a wide range of applications. Pre-coated chippings are highly resistant to polishing which are rolled into and form part of an HRA surface course. Hanson offer a range of pre-coated chippings with varying Polished Stone Values (PSV) which vary according to the asphalt plant they are produced at:

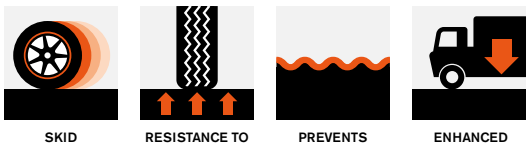
- Craig Yr Hesg – 68+ PSV
- Runcorn – 60, 65, 68 PSV
- Bradford – 60 PSV

Benefits

- Resistance to permanent deformation in accordance with the class requirement selected from Table C.3 of PD 6691
- High stability Hot Rolled Asphalt (HRA)
- Premium Polymer Modified Binder (PMB) where required
- Use of high quality aggregates in accordance with BS EN 13043
- Availability of coated chippings for surface course when required
- Surface macrotexture compliant with Clause 921

Please note: we are able to deliver on a nationwide basis.

For further information, please contact **asphaltsales@hanson.com**



Hanson era® 100

Technical data sheet

Our energy-reducing asphalt helps you meet the sustainability targets of today's road building projects.

era® today's greener asphalt

Its micro-foaming method cuts the level of carbon emissions associated with asphalt production for road laying by up to 50%, while enhancing durability and improving health and safety for contractors.

For greater sustainability, the mix can use up to 50% recycled material during preparation and it is also 100% recyclable after use.

Benefits

- Faster completion of resurfacing work
- Improved workability
- 50% reduction in CO_2 emissions
- Reduction in thermal ageing process
- Enhanced durability
- Includes recycled content
- Available from selected Hanson asphalt plants
- Technical support service available
- Improved health and safety

For further information, please contact **asphaltsales@hanson.com**

ENHANCED DURABILITY/ HEAVY DUTY

INCLUDES RECYCLED CONTENT

50% REDUCTION IN CO_2

Use this product for

- ✓ Motorways
- ✓ All major roads
- ✓ Most asphalt solutions

Hanson era® 140

Technical data sheet

A new warm-mix asphalt solution that is designed to be environmentally friendly.

era® today's greener asphalt

Hanson era® 140 incorporates a specialist bitumen that allows asphalt to be produced at a reduced temperature (up to 30 degrees lower), when compared to conventional hot mix asphalt. This in turn leads to a fall in the level of embodied CO_2.

The sustainability benefits of this product can be enhanced even further with the incorporation of recycled material within the mix.

Benefits

- Faster completion of resurfacing work
- Improved workability
- Sustainability – 2.4kg of CO_2 can be saved per tonne in comparison to conventional hot mix asphalt
- Reduction in thermal ageing process
- Enhanced durability
- Includes recycled content
- Available from selected Hanson asphalt plants
- Technical support service available
- Improved health and safety

For further information, please contact **asphaltsales@hanson.com**

ENHANCED DURABILITY/ HEAVY DUTY

INCLUDES RECYCLED CONTENT

REDUCED CO_2

Use this product for

- ✓ Motorways
- ✓ All major roads
- ✓ Most asphalt solutions

Durafalt®

Technical data sheet

Durafalt® is a high-performance SHW Clause 942 approved surface course system laid by any Hanson approved licensed laying contractor.

The Stone Mastic Asphalt (SMA) derived mix uses 40/60 pen grade bitumen and is suitable for both road maintenance and new road construction. It is available in 14mm, 10mm and 6mm nominal sizes and a range of Polished Stone Values (PSVs).

The high coarse aggregate content provides an interlocked framework giving good resistance to deformation while, the rich mastic ensures maximum durability. The mix design and choice of aggregate size provide a texture depth that is retained in accordance with Clause 921, and gives significant noise reduction over more traditional surfacings, such as Hot Rolled Asphalt (HRA) and concrete.

Benefits

- Restores texture and skid resistance
- Excellent deformation resistance
- Enhanced ride quality
- Good noise reduction
- Reduced spray
- Provided as a system – Hanson manage the approval process

Durafalt® technical data

Coarse aggregate	
Los Angeles abrasion value	30 max
Aggregate abrasion value	As specified in SHW Clause 942 (Appendix 7.1)
Flakiness index	20 max (6mm 30 max)
Nominal sizes	6mm*; 10mm; 14mm
Binder	40/60 pen
Additive	Cellulose fibre
Layer thickness Details of constituent quality and layer thickness shown below	
6mm nominal size	20 – 30mm
10mm nominal size	25 – 50mm
14mm nominal size	35 – 50mm
Surface texture (on installation)	
10mm	1.1 – 1.6 mm (HE Clause 942 Level 2)
14mm	1.3 – 1.8 mm (HE Clause 942 Level 3)
Road and laboratory test results	
Torque bond	> 400 kPa
Wheeltracking (BS EN 12697 – 22 procedure B category WTS Air 1,0)	Highways England Clause 942 Level 3
Water sensitivity (retained stiffness)	Minimum 80%
Stiffness	>2,500 MPa
Noise	Highways England Clause 942

*Non-HAPAS approved.

For further information, please contact **asphaltsales@hanson.com**

Use this product for

- ✓ Highways/motorways
- ✓ Trunk roads
- ✓ Local Authority Networks

Durafalt® HD / HD+

Technical data sheet

Durafalt® HD is a strong and durable surface course (non-clause 942) designed to withstand heavy load traffic.

Durafalt® HD+ is a combined solution (non-clause 942) that contains fuel resisting properties and is designed to withstand heavy load traffic. Available in 10mm and 14mm nominal sizes.

Benefits

- Cost-effective
- Texture depth range 1.1mm – 1.8mm
- Durable
- High deformation resistance
- Good noise reduction
- Reduced spray
- Fuel resisting properties
- Good workability
- Enhanced ride quality
- Excellent load spreading ability from very heavy slow moving traffic at higher temperatures to prevent wheel track deformation

Please note: 7 days' notice required to stock specialist binder.

For further information, please contact **asphaltsales@hanson.com**

Use this product for

- ✓ Carriageways
- ✓ Major paved areas
- ✓ Industrial

Durafalt®-fill

Technical data sheet

Durafalt®-fill is a one-part asphalt product for efficient pothole repairs (non-Clause 942) that bonds to existing surfaces.

It is designed to be used in layers from 30mm to 100mm not only to repair potholes, but also to patch anything from driveways to carriageways. It has been specially developed to be easy to use and hard-wearing.

Benefits

- Cost-effective over the whole life
- Deformation resistance
- Increased stiffness
- Longer lasting solution to road repairs than traditional asphalt or concrete
- Reduced wastage
- Improved efficiency

Installation guidelines

Installation in accordance with BS 594987.

Durafalt®-fill technical data

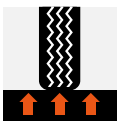
Typical material properties	Typical result
Air voids	≤ 6%
Stiffness	2200 MPa (typical)
Nominal sizes	10mm
Binder	Modified pen grade
Layer thickness (recommended)	30mm to 100mm
Wheeltracking (BS EN 12697 – 22 procedure B category WTS Air 1,0)	Wheeltracking Slope: 0.3mm/10^3 cycles

For further information, please contact **asphaltsales@hanson.com**

Use this product for

✓ Pothole repairs

✓ Road surface patching



RESISTANCE TO DEFORMATION

INCREASED STIFFNESS

ENHANCED DURABILITY/ HEAVY DUTY

Durafalt® D

Technical data sheet

Durafalt® D has a high binder content and lower air voids than traditional Stone Mastic Asphalt (SMA), these properties are at the core of this asphalt solution.

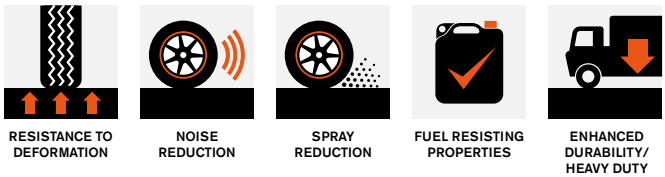
Designed in line with Transport for Scotland SMA methodology for aggregate grading and minimum binder content to provide optimal texture and skid resistance for enhanced breaking in wet weather conditions, it has the benefit of increased durability compared with standard SMA.

Benefits

- Cost-effective over the whole life
- High deformation resistance
- Good noise reduction
- Reduced spray
- Our Durafalt® D+ mix has fuel resisting properties
- Good workability
- Enhanced ride quality
- Good load spreading ability from very heavy slow moving traffic at higher temperatures to prevent wheel track deformation

Please note: 7 days' notice required to stock specialist binder.

For further information, please contact **asphaltsales@hanson.com**



Use this product for

- ✓ Carriageways
- ✓ Major paved areas
- ✓ Industrial

Duradrive®

Technical data sheet

Duradrive® provides a high quality surface finish and delivers enhanced resistance against heavy steering/use from private vehicles.

It utilises a specially designed mix and can either incorporate aggregates in a 6mm or 10mm nominal size.

For additional scuff and fuel resistance, we offer a premium solution – **Duradrive®+**. This product provides enhanced laying characteristics and utilises a modified bitumen to improve workability.

Installation: In accordance with BS 594987 and Hanson installation guide. This product can be laid by hand or via conventional paving equipment.

Benefits

- Deformation resistance
- Increased protection against scuffing
- Strong and durable
- Duradrive®+ offers resisting properties to fuel and oil spillages

For further information, please contact **asphaltsales@hanson.com**

Use this product for

✓ Driveways

✓ Car parks

Courtfalt®

Technical data sheet

Courtfalt® is a 6mm premium asphalt product designed specifically for sports surfacings.

A free-draining open graded asphalt concrete (AC), which is mixed using 100/150 or 160/220 binder (Polymer Modified Binder option is also available). The product must be laid on a porous base layer.

Installation: Must be carried out by a competent sports surfacing specialist contractor on free-draining base layers.

Courtfalt® Binder Course

Offers the same characteristics as Courtfalt® to enable a porous binder course and is available as a 14mm or 20mm option.

Benefits

- Guaranteed drainage properties
- Offers improved performance and durability compared with standard open graded AC products

For further information, please contact **asphaltsales@hanson.com**

Use this product for

✓ Tennis courts

HEALTH AND SAFETY

EXCELLENT DRAINAGE

Courtfalt® Multi

Technical data sheet

Courtfalt® Multi is a 6mm free-draining AC, ideal for Multi-Use Games Areas (MUGAs).

It's mixed using 100/150 pen binder and offers improved performance and durability compared to standard open graded AC products. The product is manufactured with a slightly denser grading than the Courtfalt® tennis court material.

Installation: Must be carried out by a competent sports surfacing specialist contractor on free-draining base layers.

Courtfalt® Binder Course

Offers the same characteristics as Courtfalt® to enable a porous binder course and is available as a 14mm or 20mm option.

Benefits

- Guaranteed drainage properties
- Offers improved performance and durability compared with standard open graded AC products
- A range of Polished Stone Values (PSVs) can be provided to enhance slip resistance

For further information, please contact **asphaltsales@hanson.com**

Use this product for

✓ MUGAs i.e. five-a-side pitches and playgrounds

HEALTH AND SAFETY

EXCELLENT DRAINAGE

Hanson Airfield

Technical data sheet

Hanson Airfield is a unique brand of materials designed to meet the requirements of current BAA and Defence Estates Airfield Specifications for runways, aprons and taxi ways. Hanson Airfield materials are designed using Hanson's own high quality hardstone aggregates and specialist bitumen's from our supply partners.

Each material goes through a rigorous design process to ensure the UK Defence Estates and BAA specifications are met. With the ability to supply from off-site plants the expensive process of setting up on-site asphalt plants can be avoided giving the contractor the potential to deliver schemes to the client at vastly reduced costs. Where site and schemes dictate, Hanson also offer mobile plant options.

Hanson's suite of Airfield materials includes BBA (Betons Bitumineux Pour Chaussees Aeronautiques) and Specification 049 SMA products.

Benefits

The main advantages of Hanson Airfield BBA are:

- Type C (Continuous) for grooving and Type D (Discontinuous) can be supplied from off-site plant
- Meets DE/BBA specification up to highest class
- Speed of installation
- Laid by conventional methods
- Cost reduction over traditional methods - Marshall Asphalt

Hanson Airfield BBA C typical data

Typical material properties	Typical result	Spec limits
Void content @ 60 gyrations	6.1%	3% – 7%
Water Sensitivity – DURIEZ	98.4	>/= 80%
Wheeltracking @ 60 C		
A: rut @ 1,000 cycles (%)	1.1	n/a
B: slope of the rut line	0.167	n/a
Rut depth @ 10,000 cycles (%)	35 – 50mm	=/< 10.0
Stiffness modulus		
@15 C, 10Hz (Ppa)	8657	=/> 5000
ITFT (cycles to failure)		
10 C 25Hz*	Min 160	>100

*Contact technical for more information at **asphaltsales@hanson.com**

Tufflayer®

Technical data sheet

Tufflayer® offers an alternative SAMI (Stress Absorbing Membrane Interlayer) to geogrid asphalt reinforcing layers by providing a highly polymerised crack relief interlay solution that also protects lower layers from water ingress by creating an impermeable layer.

Laid by conventional paving equipment the Tufflayer® solution uses Shell Cariphalte Dense Mixture polymer modified bitumen. Tufflayer® achieves optimal flexibility, enhancing fatigue resistance by significantly delaying the effects of reflective cracking. The Tufflayer® design is produced from washed crushed rock fines, limestone filler and has a high bitumen content. The unique design has relatively low surface texture and a very low void content, making it an ideal choice for concrete overlay or applications where reflective cracking may be an issue.

Using Tufflayer® as a replacement for geogrids provides a superior design solution at reduced whole life cost.

Benefits

- High levels of flexibility
- Significant delays in reflective cracking
- Protects lower pavement from moisture ingress
- Cost-effective over the whole life
- Laid with conventional paving equipment
- Recyclable

Tufflayer® technical data

Typical material properties	Typical result
Target thickness	25mm
Minimum overlay thickness	35-40mm
Overlay thickness in heavily trafficked areas	100mm
Typical laying temperature	160-175°C
In situ voids	0.5-2.0%
Resistance to deformation	Class 2 60°C (Cl 943 requirement)
Fatigue life	Up to 25 times higher when compared with a conventional bitumen solution*

*Analysis of ITFT data using 40/60 DBM as a comparator.

Use this product for

- ✓ Overlay of concrete carriageways
- ✓ Sites where reflective cracking is an issue
- ✓ Major projects

Please contact the asphalt technical team at **asphaltsales@hanson.com** for ITFT data.


CRACK RESISTING


PREVENTS WATER INGRESS


FLEXIBLE


FATIGUE RESISTANCE