

DENSIPHALT®



Semi-flexible pavements in airports



- Aircraft aprons
- Push-back areas
- Apron taxiways
- Taxi-holding positions
- Holding bays
- Refuelling pads
- De-icing areas
- Runway ends



Semi-flexible pavements for airport areas

Densiphalt®

– a semi-flexible and joint-free pavement proven to be an optimum solution in airports worldwide

Densiphalt® is a composite paving material that combines the flexible properties of asphalt with the static bearing capacity and durability of concrete. The pavement is constructed with a traditional roadbase and a Densiphalt® wearing course.

Airport pavements

One of the challenges facing engineers in airport planning is the design and construction of durable, low-maintenance and economical pavements. As traffic intensity, axle loads, tyre pressures and aircraft size continue to increase, so does the demand for improved airfield pavements. Densiphalt® is the natural choice to meet these challenges as it combines the flexible and joint free asphalt with the excellent bearing capacity and high wear resistance of concrete.

Apron pavements

Aircraft aprons must be a durable platform for loading and unloading passengers and cargo, fuelling, parking or performing maintenance.

Densiphalt® withstand heavily channelled traffic, long-term parking and fuel spills with minimum maintenance and minimum downtime.



Densiphalt® asphalt.



Installation of Densiphalt®.



Densiphalt® mortar.

Densiphalt® surfacing on bituminous bound layers for heavy-duty airport areas

SUBGRADE TYPE COURSES	MEDIUM 40 MPa		STRONG 70 MPa	
	B 737	B 747	B 737	B 747
Densiphalt®	50 mm	50 mm	50 mm	50 mm
Bituminous binder course	60 mm	60 mm	60 mm	60 mm
Bituminous base course	125 mm	150 mm	100 mm	150 mm
Subbase 1	250 mm	300 mm	150 mm	275 mm
Subbase 2	400 mm	1100 mm	200 mm	400 mm

(The examples of layer thicknesses and designs are from projects around the world. We recommend use of a consulting engineer for the design in every case).

Mechanical loads

Airfield pavements such as aircraft aprons, push-back areas, apron taxiways, taxi-holding positions, refuelling pads and de-icing areas are especially exposed to high frequency traffic resulting in:

- Heavy static loads
- Rutting
- Wear

Densiphalt® withstand these stresses with a minimum of traffic disruptions for maintenance.



Densiphalt® on aprons and taxiways.

Chemical and physical environment

Airfield pavements, especially in de-icing and refuelling areas, are subjected to spills from jet fuel, hydraulic oil and de-icing liquids.

The density of Densiphalt® makes the surface environmental friendly as it is impermeable and fuel-resistant. Densiphalt® also protects the underlying base layers from water penetration leading to foundation failure.

Friction

For the safety of passengers and airport staff, Densiphalt® pavements are made rough to give good friction.

Densiphalt® technical data

Mortar component - Typical values

Compressive strength	Wear resistance	Freeze / thaw resistance
110 MPa	10 cm ³ /50cm ²	<0,1 kg/m ²
EN 12390-3	EN 13892-3	DS/CEN/TS 12390-9

Wearing course

Compressive strength	E-Modulus	Freeze / thaw resistance
8 MPa	8.000 MPa	<0,1 kg/m ²
EN 12504-1	(ASTM-D-4123/BS DD 213)	DS/CEN/TS 12390-9

Densiphalt®

The strength of concrete:

- Good wear resistance
- High bearing capacity
- Superior resistance to rutting
- Long service life
- Impermeable
- Excellent resistance to thermal movements
- Fuel-resistant

The flexibility of asphalt:

- Joint-free pavement
- Semi-flexible
- Freeze/thaw resistant
- Swift installation
- Early trafficking

ITW Engineered Polymers - a strong partner for Flooring and Pavements around the world

ITW Engineered Polymers

ITW Engineered Polymers is a division of ITW (Illinois Tool Works). ITW is one of the world's most diversified industrial companies, with a sales turnover in 2012 of USD 18 billion. Established in 1912, today ITW employs over 65,000 people worldwide.

ITW businesses serve local customers and markets around the globe with specialized industrial equipment, consumables, and related service businesses.

ITW Engineered Polymers is a global supplier of chemical solutions targeting industrial manufacturers. ITW Engineered Polymers manufactures, markets and sells a wide variety of industrial technologies including High Performance Cementitious products, epoxy adhesives and chocking compounds, methacrylate adhesive and polyurethane coatings under leading brands such as Densit®, Ducorit®, Devcon® and Plexus®.

Densit®

Densit® is a brand of ITW Engineered Polymers. Since 1983, ITW Engineered Polymers has been specializing in the development, manufacture and supply of high performance solutions based on its Ultra High performance Cementitious (UHPC) Densit® material.

ITW Engineered Polymers is working in partnership with the ITW WindGroup to bring this unique global platform of grout solutions for offshore and onshore foundation installations into the market.

In addition to connecting offshore structures in the wind industry, UHPC Densit® materials are applied worldwide in other demanding areas such as wear and abrasion resistant solutions, the reinforcement of oil and gas platforms, industrial flooring and pavement and security barriers.

QUALITY ASSURANCE

ITW Engineered Polymers is certified to ISO 9001, ISO 14001 and OHSAS 18001.



ISO 9001 • ISO 14001
OHSAS 18001