

*Evergreen
Aviation*



About Us

Evergreen Aviation assists airports in minimizing operation costs and improving security by reducing FOD, Erosion, Bird strikes, noise and maintenance.

Aviation Grade Artificial Turf (AGAT) Evergreen Aviation is the distributor of AGAT for airports in Scandinavia, UK, North Atlantic, MENA, several European, African and Asian countries.

AGAT is a future proof, innovative solution with numerous advantages for installation in leading airports around the world.

With our **experience** within artificial turf, aviation and civil engineering, we are able to offer a yet unexploited possibility of optimizing security, increasing efficiency and environmental improvements.

Our **solutions** are thoroughly tested in laboratories and airports all over the world. Evergreen Aviation provides consultancy, installation, service, and maintenance of AGAT.

To educate and minimize environmental impact we strive to use local manpower, equipment and materials.

are who
We?

AGAT

Aviation Grade Artificial Turf

AGAT is a synthetic turf designed for airport Groundcover. With our experience within artificial turf, aviation and civil engineering, we can optimize security, increasing efficiency and environmental improvements, while minimizing operation costs. Our sustainable surface solutions are thoroughly tested in laboratories and airports all over the world. Evergreen Aviation provides consultancy, installation, service, operation and maintenance of AGAT.



AGAT advantages

Safety First



- **FOD** Foreign Object Debris secures against creation and improves visual identification of FOD
- **Erosion** closes the surface and secures it against erosion
- **Visual Recognition** – clear visual recognition independent of seasons.
- **Incursions** - Minimized maintenance and reduction of the need for ground personnel airside.
- **Aircraft Rescue and Fire Fighting (ARFF)** - increases the access and shortens the rescue turnout.
- **Nudging** - ‘Nudging’ signals which affects behaviour unconsciously but effectively.
- **Bird Strikes** - Fewer bird strikes due to the reduced presence of food and hiding places for birds.
- **Drainage** - Increases the possibility of surface drainage.
- **Wildlife Management** - Neutral and ethical wildlife management, due to the natural removal of food, shelter, and water for birds and prey.
- **Noise Reduction** - AGAT works as a noise reduction in Aprons, Taxiways and Helipads

FOD

AGAT advantages



Foreign Object Debris Damage (FOD) is responsible for countless millions of dollars worth of damage to aircraft every year. An AGAT installation helps inspection personnel to identify and remove debris quickly and effectively. In addition, areas which are normally subjected to jet blast are stabilized with an AGAT installation, as the potential for pavement disaggregation is greatly reduced. AGAT's FOD-prevention characteristics have been tested and proven.



Erosion

AGAT advantages



AGAT helps to stabilize runway and taxiway shoulders and prevents the erosion of soil abutting the pavement because of jet blast and water run-off. A synthetic turf system also provides a surface that will support inadvertent excursions by aircraft and minimize damage to aircraft gear systems.



Visual Recognition

AGAT advantages



AGAT significantly enhances the visual delineation for aircraft pilots and airport ground crew. This system can be used in numerous applications to help with airport marking. This significantly increases safety by covering non-movement hard surface areas such as painted infield islands and decommissioned high speed exits or taxiways in lieu of painted yellow X's. FAA study shows that artificial turf used to narrow the appearance of taxiways to prevent pilots from inadvertently landing on wide taxiways.



Incursions

AGAT advantages



Installation of AGAT on the airport reduces the number of times when personnel and equipment must be on the airfield, especially in the runway and taxiway safety areas. Synthetic turf also aids vehicle operators and pilots to maintain situational awareness while moving on the airport surface.



ARFF

AGAT advantages



Covering infield islands with artificial turf will create a more stable area that allows emergency response equipment to traverse over these areas during all types of weather and ultimately reduce response times to airport incidents. Both a Boeing 757 and multiple ARFF emergency service vehicles have traversed AGAT installations with no signs of displacement or damage.

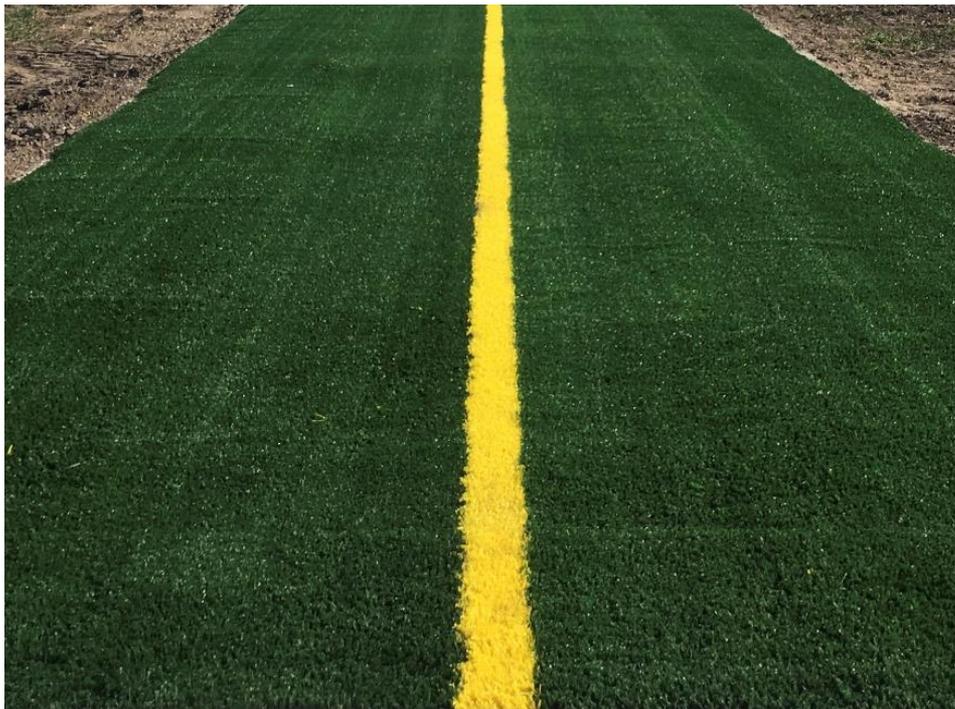


Nudging

AGAT advantages



Nudging is an architectural signal which affects behavior unconsciously in a appropriate and predictable way. These markings in artificial turf offer a guideline beyond the mandatory runway markings.



Bird Strikes

AGAT advantages



AGAT creates an environment which is free of food, water, and shelter for birds. Because the most dangerous and frequent encounters occur during take-off and landing, efforts to ensure wildlife control on the airfield have assumed priority and urgency. Installing artificial turf alongside runways and taxiways will drive birds further away from these critical areas and reduce the potential for bird strikes on or near the airport property.

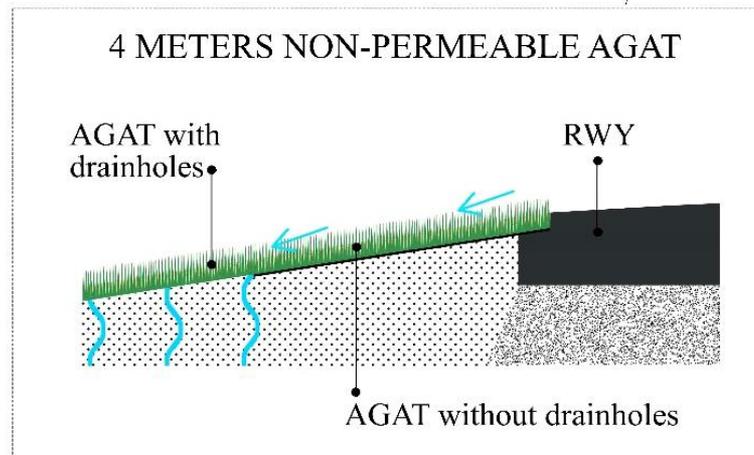


Drainage

AGAT advantages



Laboratory and field drainage tests have been performed with successful results on AGAT. The AGAT system allows water to drain through natural percolation, and the infill provides a natural filter that can drain up to 60 gallons of water per square foot per hour.



Wildlife Management

AGAT advantages



The presence of any wildlife around taxiways and runways can prove distracting and dangerous, increasing the likelihood of bird strikes and FOD. AGAT installation acts as a neutral and ethical deterrent to wildlife management by removing food, shelter, and water for birds and their prey.



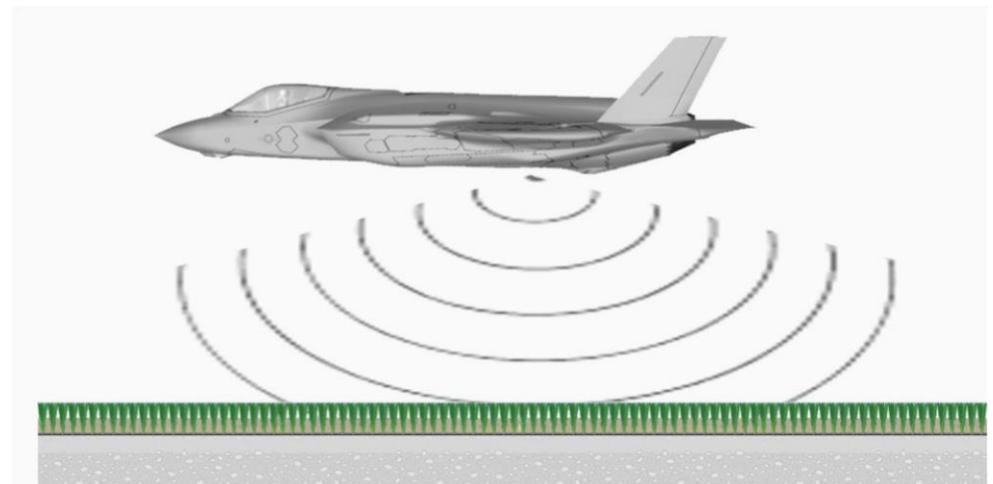
Noise Reduction

AGAT advantages



Aviation Grade Artificial Turf is an efficient sound absorbing surface. The noise reducing carpet works especially well on Runways, Taxiways, Aprons and Helipads.

Additional systems compliment the noise reduction in highly sensitive areas.



AGAT Applications

Groundcover for airports, landing strips and helipads



05-06-2019

Evergreen Aviation provides safety and efficiency to Airports worldwide through a large number of different applications. The specific applications needed to increase safety and optimize operation time and maintenance, are different from airport to airport.

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> Service Roads

> Fences

> Shoulders

> Fuel Stations

> Signs

> ILS Areas

> AGAT Runways

> Intersections

> Runway Markings

> Islands

> The AGAT Heli Pad

> Lamps

> Heli Pitch

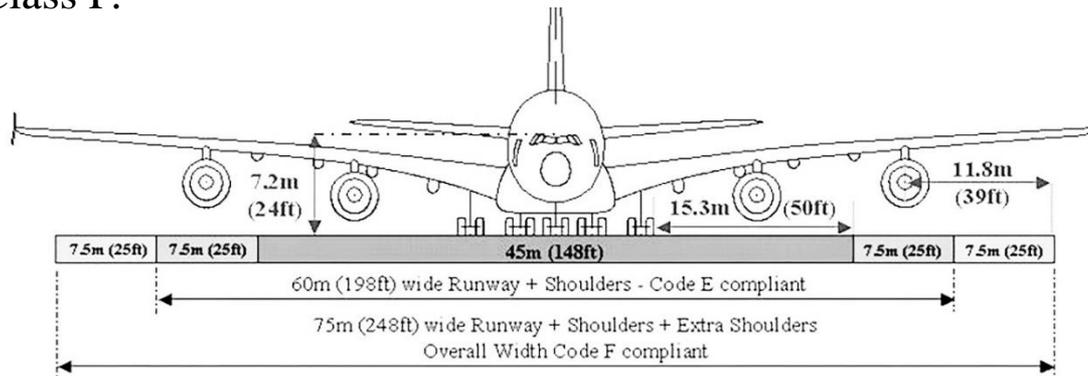
> PAPI

> Hospital Helipad

A380

AGAT Applications

Airport upgrade - To operate the Airbus 380 and similar oversized aircrafts, an airport must comply with Class F requirements. By using AGAT, the airport category can be upgraded from Class E to Class F.



Edges of Manouvering Areas

AGAT Applications

AGAT is extremely useful in work areas with high load-bearing demands. The artificial surface has been designed as a major safety improvement for the world's airports, as it improves visual delineation between movement areas and non-movement areas, solves water-pooling problems, and controls erosion.



Fences

AGAT Applications

The bottom wire of security fences around airports are to be kept free of vegetation. This can be done either by manual labour or with the use of pesticides.



Fuel Stations

AGAT Applications

Sand infill in AGAT absorbs any spills of fuel or oil, and contaminated infill can easily be replaced. The sand infill works as a fire retardant in case of ignited spills on the ground. AGAT is resistant towards all chemicals found in airports.



ILS Areas

AGAT Applications

AGAT can be easily installed on any surface, around existing lamps, signs or other device systems. It provides a major security improvement because the synthetic turf prevents disturbance and interference by reducing incursions such as lawn mowing or weeds.



Intersections

AGAT Applications

A strong base covered with AGAT provides a maximal load-bearing capacity, strong enough for heavy vehicles to run over without sinking in. It is even strong enough to support aircrafts which accidentally cuts corners with the inner wheel.



Islands

AGAT Applications

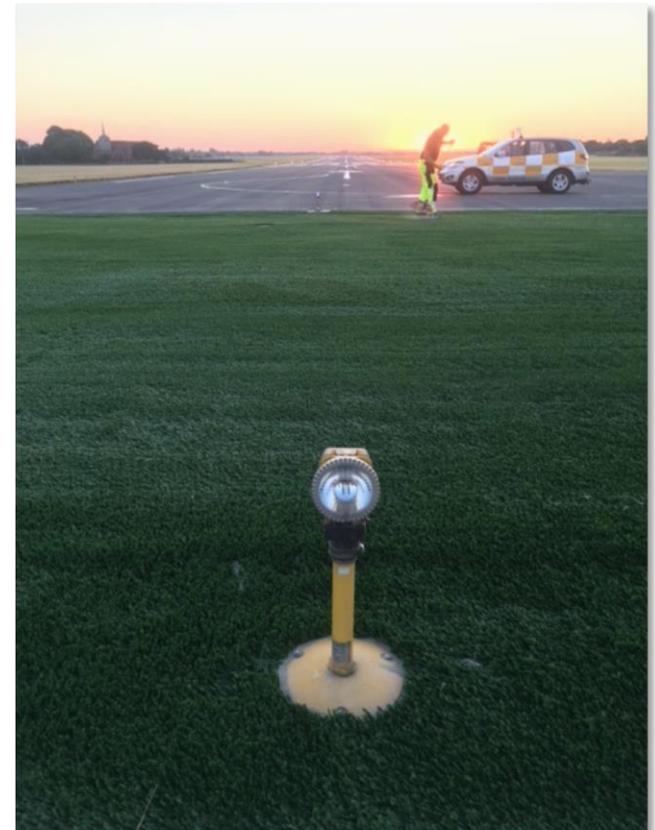
Cost-benefit analyses, evaluating the construction expenditures against increased safety, increased aesthetics, and reduced operating expenses, found many AGAT advantages. Incursion reduction is, for instance, the result of the low maintenance. The nudging effect of AGAT airport islands is remarkable.



Lamps

AGAT Applications

Airport lamps are extremely vulnerable to planting. It is of utmost importance that all airport marking equipment is kept free of any disturbance that may interfere with their functionality. Installation of AGAT, in accordance with the existing equipment, is trouble-free.



PAPI (Precision Approach Path Indicator)

AGAT Applications

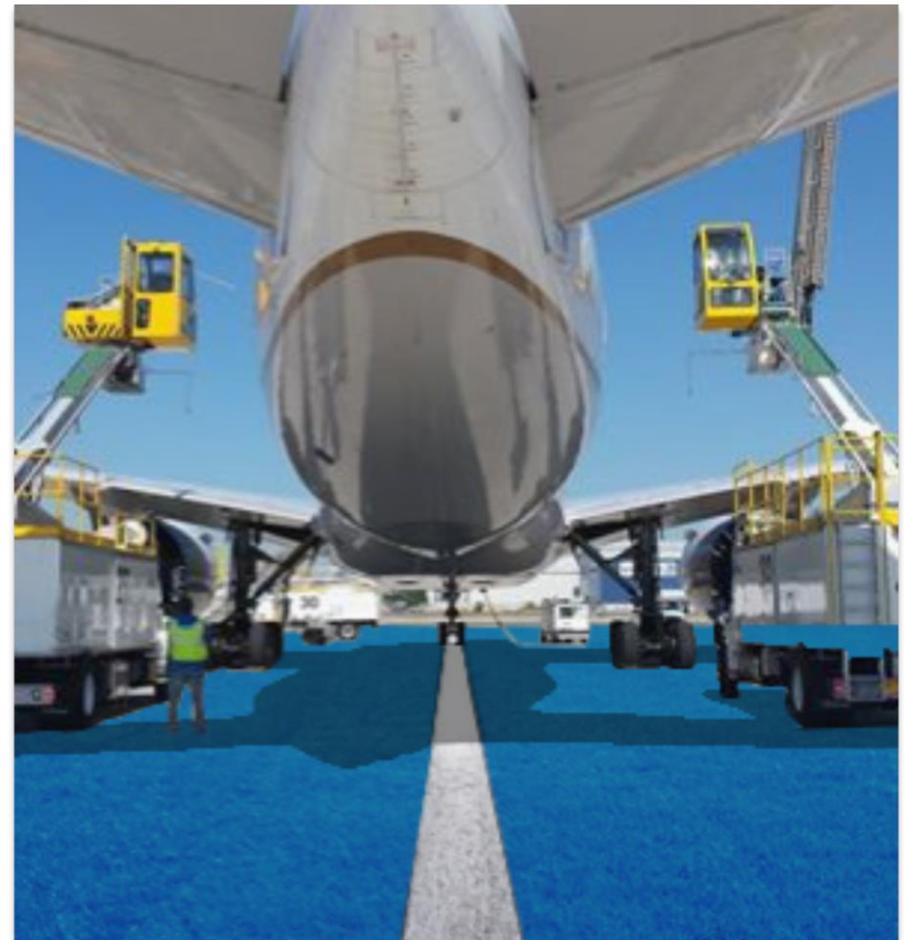
AGAT has an economical affordability when it comes to lighting upgrades. It allows for innovation without interfering with any of the airport's legacy systems which may be worthy of preservation. The sturdy and reliable stable groundcover prevents disruptive and dangerous blockages and increases airfield lighting usage.



Service Areas

AGAT Applications

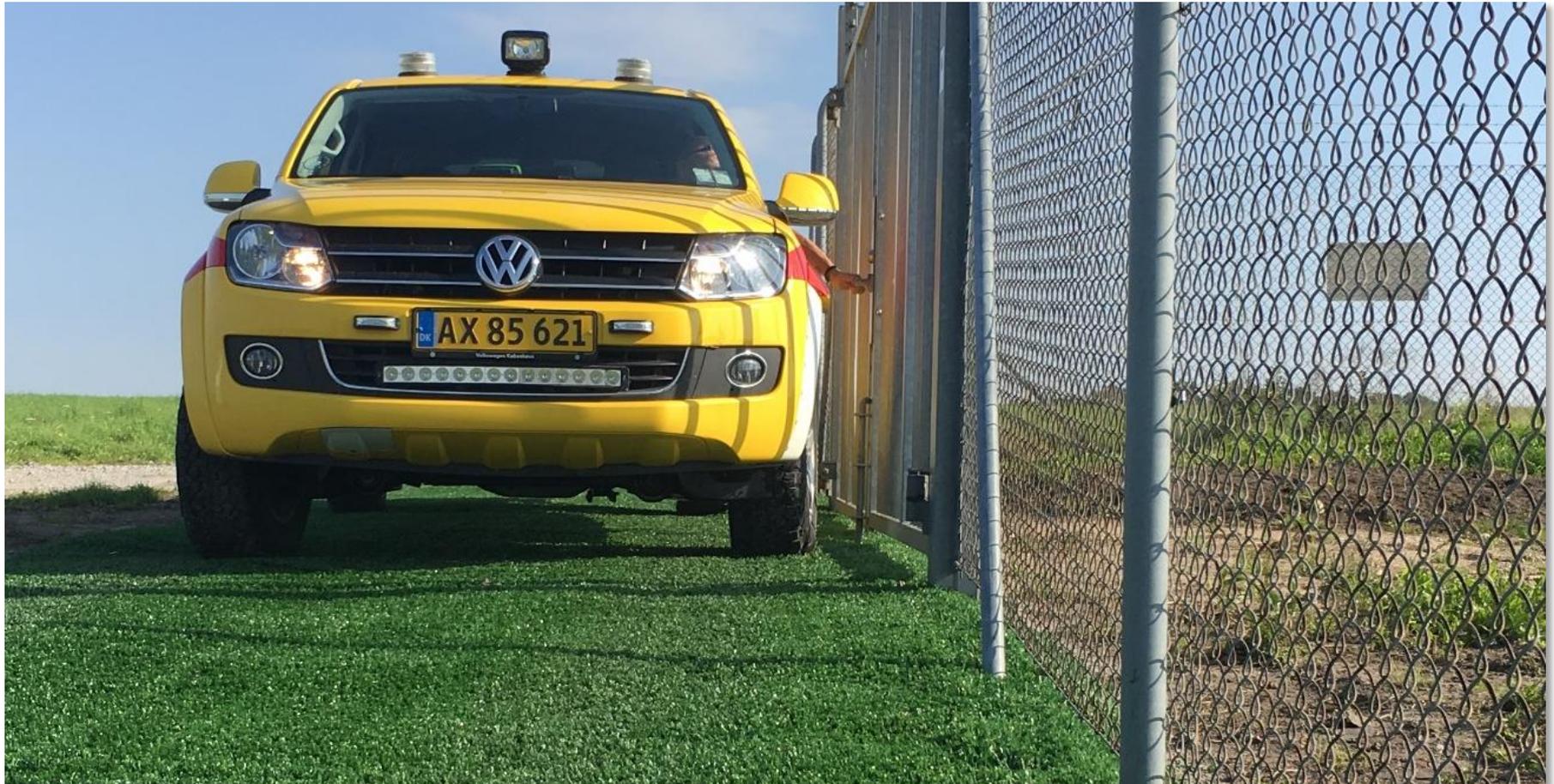
AGAT covered service areas are designed in accordance with each airport's needs and capabilities, depending on which services the airport wishes to offer.



Service Roads

AGAT Applications

By installing AGAT on service roads, whether they are made from soil, gravel or paved surfaces, a number of advantages can be obtained. These include improved visibility, minimised debris and FOD, and a prolonged lifespan.



Shoulders

AGAT Applications

AGAT has been tested for jet blast and ultra-heavy loads, including large aircrafts, and for supporting emergency response equipment. AGAT meets ASTM installation requirements. AGAT meets the specifications in the FAA Advisory Circular 150/5370-15B, and has been identified as a material that can be used to cover large portions of airport property with multiple benefits, such as providing consistent groundcover, as well as reducing maintenance costs and attractive vegetative food sources for hazardous wildlife species.



Signs

AGAT Applications

Signs are normally placed in crucial areas in an airport. When AGAT has been installed beneath signs, incursions are minimized and thereby the security is upgraded.



AGAT Runways

AGAT Applications

A runway paved with AGAT gives the ideal surface to land small and medium-sized airplanes, regardless of geographical and weather conditions.



Runways Markings

AGAT Applications

AGAT allows markings to be embedded right into the turf. AGAT has been formulated to have a long life, despite exposure to hard weather and sun. Markings do not fade and they stand bright and visible across the entire lifetime of the runway.



AGAT Heli Pad

AGAT Applications

A helipad is sized in accordance with the largest helicopter schedules for regular use. The Annex 14 describes the helipad size and markings. The entire AGAT helipad surface can be produced off location, and airlifted to its final destination.



Heli Pitch

AGAT Applications

A useful combination of a sports field and a helipad. Evergreen Aviation holds all official certifications.

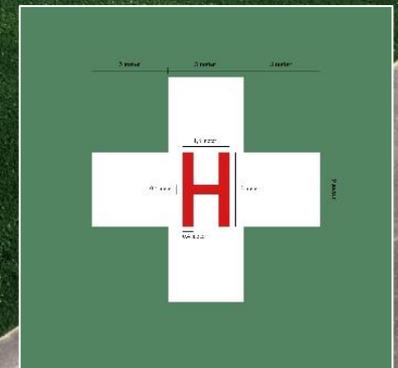
Installation can take place on all surfaces, of all sized, according to local conditions.



Hospital Helipad

AGAT Applications

Often located on hospital grounds or on the roof of a building, AGAT is ideal for hospital helipads due to its light material and easy installation.



Notes

Referencelist

Aviation artificial turf installations

Airport/City	ICAO	Country	Location	Description	Year
Copenhagen Airports, Roskilde	EKRK	Denmark	Security Fence/ Service Road South	Perimeter fence 200 m ²	2018
London Southend Airport	EGMC	United Kingdom	RWY 05	Jetblast Area 450m ²	2018
Sygehus Soenderjylland, Aabenraa	Private	Denmark	Emergency input	Hospital Helipad (HEMS) 19 x 19 meter	2018
Roedvig Flyveplads, Stevns	Private	Denmark	Helicopter apron	19 x 19 meter with TWY to hangar	2018
London City Airport, London	EGLC	United Kingdom	RWY 27 - TWY M	360 m ² Jetblast area	2017
Windhoek, Namibia	Private	Namibia	Namagri, Driveway	Groundcover test installation 1,8 x 6,5 m	2017
Exeter Airport, Devon, England	EGTE	United Kingdom	Exeter EX5 2BD	Helipad ø12 and passenger walkway with embedded logo	2017
Chesham, England	Private	United Kingdom	Ashley green road, Bucks HP5 3PF	Pressmore lodge private helipad ø12	2017
Billund International Airport	EKBI	Denmark	Air Service	Helipad 15x20m	2016
Karup Airport, Military air base in Karup	EKKA	Denmark	Flight Training Academy	Groundcover test installation 2x2 m under cones	2016
Tribhuvan Int'l Airport, Kathmandu	VNKT	Nepal	RWY 02/20 - TWY J	TWY J , with center marking along RWY 02/20	2015
Tribhuvan Int'l Airport, Kathmandu	VNKT	Nepal	Helicopter apron	Double helipad	2015
Karup Airport, Military air base in Karup	EKKA	Denmark	RWY 32/27L	Intersection and PAPI	2014
Karup Airport, Military air base in Karup	EKKA	Denmark	TWY S	Dicomissioned parking no. 122-124 along TWY S	2014
Maanedalen, Hoersholm	Private	Denmark	ITG	Private helipad, 12x12 m, with acces ramp	2013
Skipperly, Vejroe	Private	Denmark	In front of restaurant	Private helipad 12x12m	2013
Esbjerg Airport, Esbjerg	EKEB	Denmark	RWY 26	PAPI installation	2013
Billund Airport, Billund	EKBI	Denmark	Check Point Nord	Security fence	2013
Odense Airport, Odense	EKOD	Denmark	RWY 13/31 –TWY C	Grass RWY & TWY makings and lampe	2013

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