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International Project Solutions

Grace for Airports



Incheon Airport | Incheon, South Korea

GRACE

Grace for Airports

Grace products have been used on airports around the world for more than a quarter century

EMEA

| | |
|---------------------------|-------------------|
| Abu Dhabi (ADIA) Airport | Abu Dhabi, UAE |
| Charles De Gaulle Airport | Paris, France |
| Cork Airport | Cork, Ireland |
| Doha Airport | Doha, Qatar |
| Dubai Airport | Dubai, UAE |
| Dublin Airport | Dublin, Ireland |
| Edinburgh Airport | Edinburgh, UK |
| Gatwick Airport | London, UK |
| Heathrow Airport | London, UK |
| Hyerles Airport | Toulon, France |
| Kolkata Airport | Kolkata, India |
| Lesquin Airport | Lille, France |
| Luton Airport | London, UK |
| Malpensa Airport | Milan, Italy |
| Muscat Airport | Muscat, Oman |
| Satolas Airport | Lyon, France |
| Stansted Airport | London, UK |
| Zaventem Airport | Brussels, Belgium |

| | |
|---|---------------------|
| Pensacola Regional Airport | Pensacola, FL |
| Pierre Elliott Trudeau Airport | Montreal, Canada |
| Pittsburgh Airport | Pittsburgh, PA |
| Raleigh-Durham Airport | Morrisville, NC |
| Ronald Reagan Washington National Airport | Washington, DC |
| Sacramento Airport | Sacramento, CA |
| Salt Lake City Airport | Salt Lake City, UT |
| San Antonio Airport | San Antonio, TX |
| San Francisco Airport | San Francisco, CA |
| Savannah/Hilton Head Airport | Savannah, GA |
| Sea-Tac Airport | Seattle, WA |
| Southwest Florida Airport | Fort Myers, FL |
| Stapleton Airport | Denver, CO |
| Tijuana Airport | Tijuana, Mexico |
| Washington Dulles Airport | Chantilly, VA |
| West Palm Beach Airport | West Palm Beach, FL |

AMERICAS

| | |
|---|---------------------|
| Baltimore/Washington Airport | Baltimore, MD |
| Charlotte Douglas Airport | Charlotte, NC |
| Denver Airport | Denver, USA |
| Detroit Metropolitan Wayne County Airport | Detroit, MI |
| Fort Lauderdale-Hollywood Airport | Fort Lauderdale, FL |
| Hartsfield-Jackson Airport | Atlanta, GA |
| Honolulu Airport | Honolulu, HI |
| John F. Kennedy Airport | New York, NY |
| John Wayne Airport | Santa Ana, CA |
| Key West Airport | Key West, FL |
| Lambert - St. Louis Airport | St. Louis, MO |
| Logan Airport | Boston, MA |
| Los Angeles Airport | Los Angeles, CA |
| McCarran Airport | Las Vegas, NV |
| Miami Airport | Miami, FL |
| Mineta San Jose Airport | San Jose, CA |
| Minneapolis/Saint Paul Airport | Minneapolis, MI |
| Newark Liberty Airport | Newark, NJ |
| Oakland Airport | Oakland, CA |
| O'Hare Airport | Chicago, IL |
| Ontario Airport | Ontario, CA |
| Orlando Airport | Orlando, FL |
| Panama City-Bay County Airport | Panama City, FL |

ASIA PACIFIC

| | |
|---------------------------------|----------------------|
| Asiana Cargo Terminal | Incheon, South Korea |
| Brisbane Airport | Brisbane, Australia |
| Cathay Pacific Headquarters | Hong Kong, China |
| Changi Airport | Singapore |
| Chiang Kai-Shek Airport | Taipei, Taiwan |
| Dragon Air Headquarters | Hong Kong, China |
| Hong Kong International Airport | Hong Kong, China |
| Incheon Airport | Incheon, South Korea |
| KAL Cargo Terminal | Incheon, South Korea |
| Ninoy Aquino Airport | Manila, Philippines |
| Savannah Airport | Bangkok, Thailand |
| Soekarno-Hatta Airport | Jakarta, Indonesia |
| TaeGu Airport | TaeGu, South Korea |
| Wuxi Shuofang Airport | Wuxi, China |

Grace for Airports

“ *Spirit of place! It is for this we travel.* ”

– Alice Meynell, English poet

Grace Capabilities

When it comes to air travel, two words come to mind - safety and performance. The same values hold true for aviation related structures. Moisture intrusion, structural & aesthetic deficiencies in concrete or inconsistencies in the fire protection can result in significant damage to the structure, high replacement costs and lost revenue. This is where Grace can help.

Grace offers a wide range of innovative products and fit for purpose solutions for all areas of the airport complex – including tunnels, ramps, runways, parking structures, terminal buildings, etc. For almost 50 years, owners, architects, engineers and contractors have looked to Grace to provide the right solutions for their landmark airport projects. Grace combines historical performance, advanced technology and unparalleled support to furnish the correct solutions for its customers' needs.

Working on projects across borders and continents has become a common and necessary practice in today's environment. Grace has a global team committed to ensure international projects run smoothly and get the full support and coordination from the conception of the specification to its execution. We have the broad technology portfolio and the expertise to bridge differences in construction practices, regulatory requirements, and cultures and are ready to provide you with value-added solutions.

Grace Brands are Globally Recognized



Bituthene

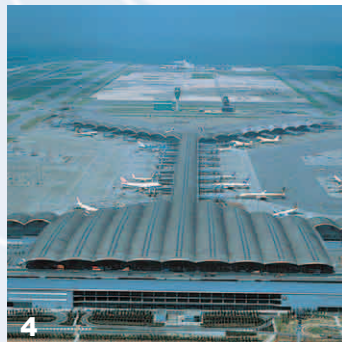


PIERI





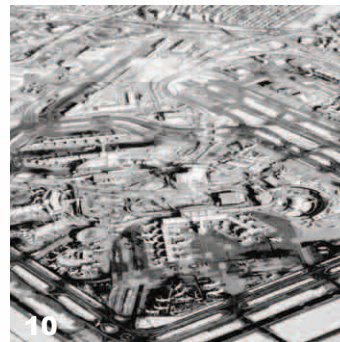
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1 Washington Dulles Airport (IAD) | Chantilly, VA

2 Dubai Airport (DXB) | Dubai, UAE

3 Heathrow Airport (LHR) | London, UK

4 Hong Kong Int'l Airport (HKG) | Hong Kong, China

5 Changi Airport (SIN) | Singapore

6 Charles De Gaulle Airport (CDG) | Paris, France

7 Wuxi Shuofang Airport (WUX) | Wuxi, China

8 Denver Airport (DEN) | Denver, USA

9 Honolulu Airport (HNL) | Honolulu, HI

10 John F. Kennedy Airport (JFK) | New York, NY

11 Los Angeles Airport (LAX) | Los Angeles, CA

12 San Francisco Airport (SFO) | San Francisco, CA



Grace for Airports

Application Areas

Substructure:

Many essential operations of a modern airport take place below ground, such as baggage handling, access and service tunnels, passenger transfer tunnels, mechanical systems operation and storage. All require dry environments to ensure continued operations and safety. Grace's fully-adhered waterproofing membranes provide maximum protection against water pressure, ground settlement and contaminants (including de-icing fluids, chlorides, sulfates, radon, methane, etc.)



Elevated Deck / Green Roof:

Water intrusion into occupied space from the roof /plaza /terrace area of structures often results in substantial remedial costs and in the inability to use critical areas of the airport over extended periods of time. This negatively impacts the airport revenue, operations and security. For such leak-prone areas Grace's sheet and fluid-applied options install quickly and offer the owner the highest level of protection against the elements.



Engineered Façade:

Grace's full portfolio of permeable and impermeable, sheet and fluid-applied air barrier membranes bond to the structure and seal around fasteners offering a premium level of protection against moisture intrusion and possible damage to the interior environment. By reducing exterior air infiltration, air barriers help increase the energy efficiency of the structure.



Sloped Roof:

Grace roofing underlayments have been used globally under some of the most complex roof designs, under variety of roof coverings and in diverse and extreme climatic conditions. While water can often pass the metal, tile or stone roof, it cannot easily get past the Grace fully-bonded underlayment. Grace membranes protect against leaks, caused by wind driven rain, snow and ice melts, extending the life of the structure.



Structural Concrete:

Grace offers a wide variety of admixtures and fibers to meet design and construction requirements. Corrosion inhibitors cost-effectively protect reinforcement in airport parking garages and elevated roadways. Cracking in floor slabs in baggage handling area are mitigated through the use of synthetic macro fibers and shrinkage reducing admixtures. Retarders and accelerators are employed routinely to accommodate temperature extremes and meet airport construction schedules for taxiways and landing strips.



Architectural Concrete:

Grace's integral color and surface retarders may be combined to create architectural precast panels, precast/prestressed elements, and decorative concrete pedestrian areas. Designers use contrasting pavement finishes to help with zoning and direction finding.



Structural Steel Fire Protection:

Grace's cementitious spray-applied fireproofing has been a global standard for almost half a century and protects structural steel from the effects of fire. Wide selections of densities are available accommodating both interior and exterior conditions throughout the structure.



Grace for Airports

Grace technical experts can assist throughout your project delivery process

- **Recommend the optimal building envelope solution for your project location.**
- **Work internationally with the project team throughout the entire construction process.**
- **Provide jobsite expertise and support.**
- **Facilitate global projects in all major construction segments.**

Grace supplies products to more than 120 countries worldwide, through its plants and facilities in more than 40 countries, supported by a team of almost 6,000 people.

Key regional offices include:

UK (London), France (Paris), Italy (Milan), Belgium (Brussels), Poland (Warsaw), Turkey (Istanbul), U.A.E. (Dubai), Saudi Arabia (Dammam), India (Delhi), China (Shanghai, Hong Kong), Singapore, South Korea (Seoul), Australia (Sydney), USA (Boston, Chicago, San Francisco), Brazil (Sao Paulo) and many more locations globally.

Worldwide Headquarters

North America

W. R. Grace & Co.—Conn., 62 Whittemore Avenue, Cambridge, MA 02140-1692

www.graceconstruction.com/international-projects

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