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HANGAR PRE-BUILD:
Ten Key Considerations

With 50+ years of experience, we've distilled the ten crucial components to consider before starting a hangar project. Don't hesitate to contact our pre-construction team to get a custom list for your build.

Consideration 1: The Vision

Imagine standing inside your completed project. Are you seeing flight departments or individually owned aircraft? What size aircraft are inside? Is it ideal for just aircraft storage, or are there more options? Let's consider the growth potential of this facility with opportunities for expansion beyond aircraft storage. Without this strategy upfront, there could be significant drawbacks to long term performance.

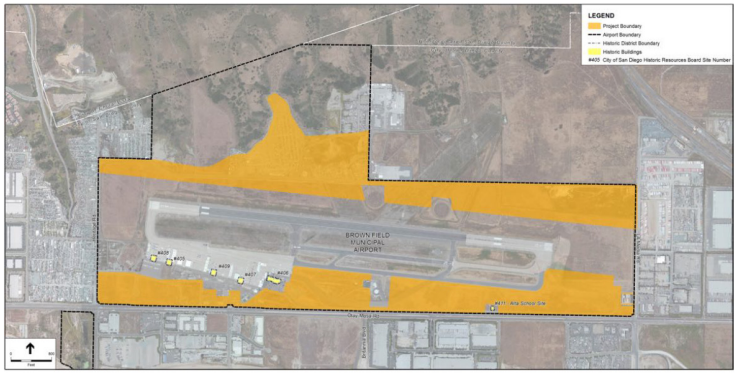
Consideration 2: Long Term Use

Today's current hangar plan may not agree with your future hangar plan, even thinking five years out. Consider electric aircraft, EVTOL charging, solar power and the next-generation jets, which are getting taller and wider. Will I be one of the first who can consider these if I want to? Supersonic jets are next, and these aircraft will be longer than wide. Identifying today's and tomorrow's needs must be carefully and thoroughly evaluated.

Consideration 3: Airport Master Plan and Layout Plan

A deep knowledge and understanding of the Airport Master Plan (AMP) and Airport Lay-out Plan (ALP) at the site you are considering will prevent filing for exceptions later in the process. Every airport is unique, and each has requirements to be adhered to to prevent rejections, delays, and costly change orders.

Understanding the AMP and ALP early helps avoid costly surprises later.



Consideration 4: Jurisdictional Environment Requirements

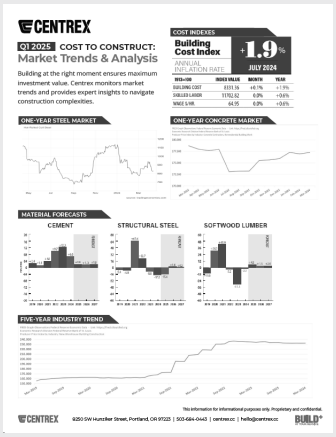
Do you know your considered site's specific airport and jurisdictional environmental requirements? Airports are bound by state and federal environmental regulations to keep annual FAA funding. These requirements are often not published. Instead, they must be discovered through early pre-application meetings with the jurisdictions involved.

Consideration 5: Fire Marshal

The fire marshal plays a crucial role in ensuring the safety of airport facilities and compliance with fire codes, such as NFPA 409, which specifically addresses hangar fire protection. National fire code is consistent; however, LOCAL fire marshals have the authority to approve (or disapprove) alternate methods for meeting hangar-specific fire suppression requirements, which creates inconsistencies. Navigating this process can be challenging and complicated for hangar developers. Developers should engage with the fire marshal as soon as possible to discuss their plans and understand specific requirements or preferences the fire marshal may have. By providing thorough documentation and addressing concerns early on, developers can work towards finding mutually agreeable solutions that meet both the fire code requirements and the project's needs. Regular and frequent communication throughout the design process can help developers ensure that their plans align with the fire marshal's expectations and will avoid any setbacks or delays in securing approvals.

Consideration 6: Structure Type

Consider the benefits of each structure carefully. Pre-engineered metal buildings (PEMB) are great for clear span, allowing more open space without columns limiting aircraft stacking. Concrete tilt-up buildings are great for longevity and aesthetics. Conventional steel is ideal for flexibility of design. Each of these has unique benefits and features but can also have drawbacks to efficiency. The market can quickly shift, and that can have a significant impact.



Cost to Construct Market Trends

Building at the right moment ensures maximum investment value. Centrex monitors market trends and provides expert insights to navigate construction complexities.

Download Cost to Construct Market Trends

Consideration 7: Hangar Doors

The hangar door dictates the design. The type of door that best meets your proposed hangar's current and future requirements is essential to evaluate and consider. With numerous kinds to consider, remember that each has desirable features and drawbacks aside from aesthetics. Switching out and modifying hangar doors after construction can also be costly.

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HANGAR DOORS:
What is right for you?

With over 50 years of experience, we have custom-built numerous unique hangars tailored to specific project or aircraft requirements. Choosing the right door is one of the most critical decisions in designing a custom hangar. Factors to consider include style, type, material, functionality, and size, among others. We have compiled essential considerations and key points to help you make informed decisions that best suit your needs.

	BOTTOM ROLLING	ROLL-UP FABRIC	UPLIFTING BI-FOLD	SWING	MANUAL STACK
SPAN	100+ ft.	100+ ft.	Up to 100 ft.	Up to 100 ft.	Less than 80 ft.
DURABILITY	Best	Best	Best	Best	Good
DEPENDABILITY	Best	Good	Good	Best	Best
OPENING HEIGHT	Best	Good	Moderate	Good	Best
MAINTENANCE	Least	Most	Most	More	Least
ENVIRONMENT	Good for any environment. Cold weather may require a heated door track.	Good for cold weather climates.	Restricted in windy environments.	Restricted in windy environments.	Good for most environments.
COST	$$$	$$$$	$$$	$$	$
OTHER	Sacrifice width of opening.	Requires increased hangar height.	Many manufacturers to choose from.	Needs object clear area outside the hangar.	Manually operated.
BOTTOM LINE	Best for large clear span, heavy use hangars.	Good for large clear spans, cold weather climate, semi translucent.	Maximizes door width.	Maximizes door width.	Best for small hangars.

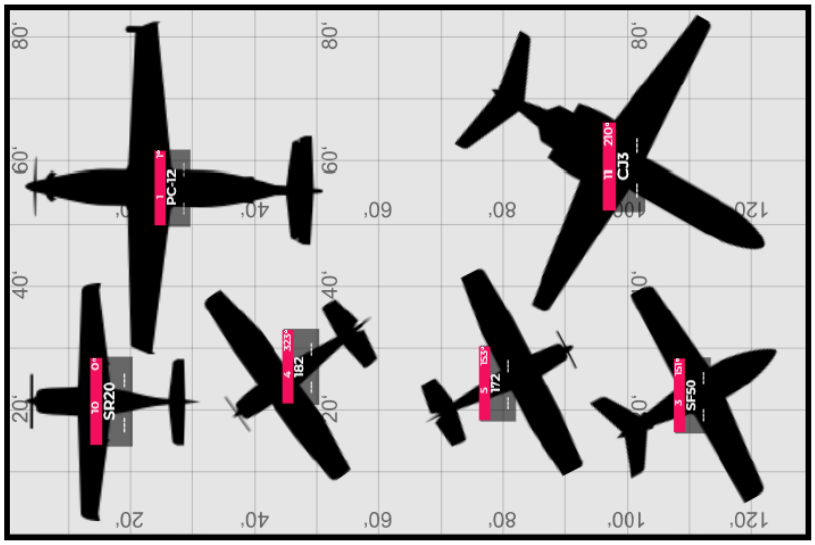
Hangar Doors: What is Right for You?

Choosing the right door is one of the most critical decisions in designing a custom hangar. Factors to consider include style, type, material, functionality, and size. We have compiled essential comparisons help you make informed decisions that best suit your needs.

Download Hangar Door Guide

Consideration 8: Aircraft Stacking

Do you have an aircraft hangar stacking plan? You could have the hangar leased at 160% occupancy to maximize your investment. To do this takes well-thought-out and strategically developed stacking plans. Consider the type of aircraft you are trying to attract and their typical use schedules. Only design a hangar that allows tenants to quickly depart and arrive or create a bottleneck when your team needs to move multiple aircraft in or out on the same schedules. Remember that proper placement of overhead doors can determine if large body aircraft will fit.



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Consideration 9: Hangar Floors

There are numerous different ways to finish a hangar floor. Do your tenants expect or require epoxy coating, or is polish concrete acceptable? Control joints can be filled and can serve your aesthetic and sometimes functional goals. Remember to take into account weather and climate conditions when determining the best floor finish at your hangar.

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HANGAR FLOORS:
Picking the Right Finish

With 50+ years of experience, Centrex has custom-built hundreds of hangars with different end uses. One of the most crucial design decisions is flooring. We have gathered important information on the top three finishes, including aesthetics, durability, traction, maintenance, cost and more, so you can choose the best option.

	Option 1: BURNISHED	Option 2: HONED & POLISHED	Option 3: EPOXY COATED
AESTHETICS	Smooth with natural variations. Glosses over time with cleaning.	Beautiful and unique finish.	Clean room look, reflects light. Several color options.
DURABILITY	●●●●	●●●	●●●
TRACTION	Semi slippery when wet.	Semi slippery when wet.	Very slippery when wet. Optional traction top coats reduce this significantly.
MAINTENANCE	Semi-annual cleaning is recommended.	Dry mop liquid spills or water immediately. Semi-annual cleaning is recommended.	Requires specific maintenance and specialty cleaning machine. Quarterly cleaning with a proper scrubbing machine is recommended.
LIFE	20+ Years	20+ Years	15+ Years
SCHEDULE		Adds several days to the construction schedule.	Adds several weeks to the construction schedule.
COST	$	$$	$$$
BOTTOM LINE	Most economical and best choice for shared space storage hangars.	Best choice for a bespoke design aesthetic.	Best choice for showcasing aircraft. Brightens the environment and is easiest to clean.

Hangar Floor: Picking the Right Finish

One of the most crucial design decisions is flooring. We have gathered important information on the top three finishes, including aesthetics, durability, traction, maintenance, cost and more, so you can choose the best option.

Download Hangar Floor Guide

Consideration 10: Future-Proofing

Many changes in aviation and building regulations surrounding environmental and sustainability initiatives are happening. These vary by each state and every airport. Be sure to source airport requirements before the start of design. Consider solar power, added structures for future office space, mezzanine decks for storage, and future battery storage. Centrex can assist you in taking advantage of incentives for recycled water, green walls/roofs, efficient lighting and more.

The Bottom Line

When planning a hangar project, consider the vision for the hangar's future use, account for long-term advancements in aviation, understand airport plans and environmental requirements, ensure fire marshal compliance, evaluate building structure types, choose the right hangar door, develop a strategic aircraft stacking plan, select appropriate hangar floors, and plan for future developments and regulations. For personalized advice and detailed planning, contact a pre-construction team.

Ready to take the next step?

Our team is here to support you through every stage of your hangar project. Contact Centrex today to start making your vision a reality. Call us at 503-684-0443 or email hello@centrex.cc.