



**HOWMET
AEROSPACE**

Asp® Soft-Core Fastener



Reliable solutions from the soft-core fastening pioneer

As competition intensifies, manufacturing cost reduction comes into ever sharper focus. In assembly of honey comb sandwich and soft core panels, the traditional use of potted inserts for attachment bears a second look.



Asp®, the leading soft-core fastener since 1975

Howmet Fastening Systems pioneered the Asp® (“Adjustable sustained preload”) fastening system in the middle 1960’s with the first application on the engine inlet of the F-111 aircraft. The specific requirement for the F-111 application was a double flush installation.

Subsequently, the system became the leading honeycomb and soft core solution throughout the airframe industry.

Unique ability to sustain optimum clamp force in service

The Asp® fastening system is designed to provide a simple way of attaching sandwich or soft core panels to structure. It applies equally to metallic sandwich panels, composite sandwich panels or foam core panels. The following are the keys to its unique capability:

- ▶ Ability to install the “free running” female threaded component with exact and precise torque application resulting from the absence of prevailing torque type locking devices and the fine pitch threads. Crushing from inaccurate torque application is totally eliminated.
- ▶ Ability to subsequently install a mechanical high integrity locking ring in place, without applying any additional force (crush tendency eliminated) onto the panels. During lock installation, the fastener absorbs 100% of the installation swage force.
- ▶ As a result, the joint is tight and the mechanical lock guarantees reliable attachments in high vibration environments.

Only Asp offers the security of high level performance in high vibration and FOD critical applications.

Precision makes the difference in flush installation

With its ability to sustain optimum clamp force, Asp is ideal for delicate structure of honeycomb or soft core panels used in engine nacelles, wing or empennage surfaces, control surfaces, fairings etc. The Asp is available in flush head configuration,

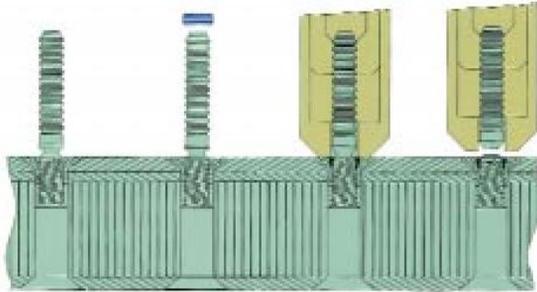
double flush (flush pin, flush sleeve) or with protruding heads.

Asp® in the available double flush configuration uniquely achieves flush surface installation on both sides of the joined materials. After torquing and installation of the locking collar utilizing simple HFS tooling, a unique double flush fastener installation is achieved. For ultimate flushness on aerodynamic surfaces the installation side may be shaved with conventional rivet shaving tools, eliminating the slight protrusion of the pin.

A seamless synergistic fastening system

The key to superior performance is the synergistic combination of superior quality components, installation tools, and technical support only available from the industry’s best “service provider”.

EASY INSTALLATION



Asp can be easily installed in 4 quick steps. There is no need for potting, bushings, inserts or step-hole preparation, reducing installation time and increasing installer productivity.





The Asp Fastening system provides a seamless process that speeds assembly. The joints are consistently strong and durable. These capabilities maintain profitability by minimizing costs.

Asp is the only fastening system that provides the capability to incrementally adjust the clamp force to the individual needs and capabilities of the specific structural assembly. Plus, the system's positive mechanical locking feature assures sustained clamp-load and vibration resistance for the life of the structure.

The Asp® fastening system has a record of service proven performance on most military and civilian aircraft.

The Asp® Fastening System is available in three configurations – full-shank diameter, reduced-shank diameter and variable-grip – each with multiple head styles, materials and surface coatings to match your unique aircraft applications.

Howmet Fastening Systems offers superior value

Asp offers a complete soft core fastening system including installation tooling. The system features alloy steel, stainless steel and Titanium fasteners. Available head styles are protruding, flush or double flush.

HFS is committed to on time delivery at competitive prices. In addition, only HFS maintains a team of field specialists, who are available for immediate telephone support or to visit your site on demand.

The sum total is superior value for the Asp product as well as for all your fastening needs from HFS.



Asp® has it all:

A fully engineered system including installation tools, a complete product line, superior lot-to-lot product consistency and on time delivery, all at competitive prices. HFS aspires to be your one-stop fastener supplier.



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