



BELAC NEWS

A Chromalloy Joint Venture Company

From the President of BELAC LLC

The BELAC value proposition is simple: Produce FAA-certified High Pressure Turbine blades that offer outstanding performance, safety and reliability — at a cost that allows operators to avoid overpaying for OEM equipment.

Inherent in our value proposition is a key element — collaboration. It's a founding principle and part of BELAC's very DNA.

BELAC was formed as a joint venture collaboration between Chromalloy — a global service provider — and major airlines to meet a specific industry need. That collaboration continues to guide every critical BELAC activity today, from product development decisions to sales and marketing.

BELAC also relies on collaboration in the manufacture of our HPT blades. The blades perform exceptionally well and have an outstanding repair record due to several factors including proprietary thermal barrier coatings.

Chromalloy developed advanced coatings for engine components beginning 60 years ago and today is a leading supplier to original equipment manufacturers of commercial aviation, marine and industrial aeroderivatives, and light and heavy industrial gas turbine engines. Chromalloy is the world's largest provider of Electron Beam Physical Vapor Deposition (EBPVD) thermal barrier coatings. These coatings are also part of BELAC blade manufacture.

Further collaboration: BELAC blades are cast at Chromalloy's investment foundries. That ensures superior alloys, production controls and adherence to strict manufacturing specifications.

In a word, our value proposition assures you quality products at competitive pricing.

Chong Yi
President



Thermal barrier coatings make a difference: BELAC components demonstrate repair advantages — and produce cost savings



Turbine engines operate as hot as 2000 degrees Fahrenheit for extended periods — and in that extreme environment superalloy High Pressure Turbine blades rely on protective thermal barrier coatings for insulation and protection.

In the aircraft engine hot section or gas path, thermal barrier coatings provide a layer of insulation to the base metal component and underlying bond coating surface of turbine blades, providing protection from the extreme heat of the combustion gases.

The resulting lower thermal conductivity allows higher engine operating temperatures — and greater engine thrust.

In addition to lower thermal conductivity, coatings also provide turbine blades a protective barrier in the engine's highly oxidizing, corrosive environment.

One of the reasons why repair overhaul results show BELAC blades have higher yields is improved corrosion-resistant

coating systems over original equipment manufacturer (OEM) equipment.

Exceeding the Average

BELAC HPT blades are manufactured with unique diffused precious metal/aluminide and chromide coatings that protect against the hot corrosion occurring below the under platform and pocket areas of the blades. Upon repair, the blades average more than 93 percent repairable vs. the industry average of 66 percent for all HPT blades. The data includes CFM56-3, CF6-80A and CF6-50 blades.

Repairable yield data for BELAC CF6-80C2 first stage engine blades, with more than 20,000 hours of operation, is even higher.

Repair yield data from a commercial air carrier in Asia demonstrated recently that BELAC proprietary coatings developed uniquely for components in the CF6-80C2 power system provide even greater improved corrosion resistance.

From Performance to Savings

What does a higher repair yield mean to an aircraft operator? They can choose to repair blades during maintenance more frequently rather than scrap and buy new, at significant cost savings.

This can amount to tens of thousands of dollars in savings for a single engine overhaul. 🌐

BELAC President to speak at UBM Aero-Engine Gathering



Chong Yi, President of BELAC LLC, is a scheduled panelist at the UBM Aero-Engine Conference, being held October 19-20 in London.

Yi is a panelist in the conference presentation titled, "PMA Parts: The Factors Behind their Full Acceptance on the Engine Market."

The panel will outline cost-effective benefits, fears of reputational risk, discussion of the key barriers to lessor acceptance and alternatives for end-customers.

The Aero-Engine conference will be held at the Pestana Chelsea Bridge Hotel & Spa. Information is at <http://www.ubmaviationnews.com/Events>.

In addition to this year's UBM conference, BELAC is an industry sponsor of the 2011 MARPA (Modification and Replacement Parts Association) conference in Las Vegas. The MARPA gathering will feature a series of workshops led by industry experts, in addition to a regular agenda and presentations.

Information about the MARPA conference, to be held at the Renaissance Las Vegas Hotel, is at <http://www.pmamarpa.com/annualconference/>. 

Upcoming Events:

September 27-29, 2011

MRO Europe – Madrid, Spain
Silver Sponsor

October 12-14, 2011

MARPA Annual Conference – Las Vegas, NV
Gold sponsor, lunch sponsor

November 3-4, 2011

PMA Summit – London, UK
Headline sponsor



For information about pricing and availability, contact

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From the BELAC Technical Team

Editor's note: The BELAC Sales and Technical staffs respond regularly to questions on a variety of topics ranging from products, pricing and availability to technical questions about repairs, exchanges and operation of BELAC parts. A question appears in each edition of **BELAC News**, with a response provided by a BELAC expert.

If you have a question for the BELAC staff, please visit the BELAC website at www.belac.com/contact/ to submit it. You will receive an individual response when you provide your contact information. General questions and answers may appear in upcoming editions of **BELAC News**.

Question: How is 'inspection' defined with regard to manufactured products?

BELAC: Inspection varies based on the field of inquiry or realm of manufacturing. A manufacturing inspection is defined by its field or particular area. For example, inspection of an electronic component for a phone has unique drivers, as does the inspection of an aircraft engine part.

Another differentiation that affects how the term 'inspection' is applied is evident when dealing with the U.S. Government. For example, FAR 52.246-2 states: "Determine acceptability of the supplier's inspection system. The following process is applicable for evaluation of new suppliers and any suppliers with standard inspection clause requirements only. QA (Quality Assurance) Personnel shall determine whether the supplier has an Inspection System that is acceptable to the government prior to accepting product." Regardless of other quality requirements, Federal Acquisition Regulation (FAR) FAR 52.246-2 (the Standard Inspection Clause) requires in paragraph (b) that "The Contractor shall provide and maintain an inspection system acceptable to the Government covering supplies under this contract and shall tender to the Government for acceptance only supplies that have been inspected in accordance with the inspection system and have been found by the Contractor to be in conformity with contract requirements."

As stated, this is one of the contractual requirements BELAC must meet when dealing with the U.S. Air Force. Commercial standards also address inspection — the AS9003 Inspection and Test Quality System; AS9102, Aerospace First Article Inspection Requirement; and ISO 9001 or AS9100. AS9100 is the international management system standard for the aerospace and defense industry and establishes a single quality management system. BELAC is AS9100 certified. 14 CFR 21 (U.S. Code of Federal Regulations) has unique requirements for companies producing products for the commercial marketplace. BELAC has an FAA-approved quality system. 


Europe's largest MRO industry gathering is next month



BELAC is making plans to participate in the aerospace industry's leading exhibition and conference in Europe.

BELAC High Pressure Turbine engine blades will be on display at the 14th Annual MRO Europe Conference & Exhibition, taking place September 27-29 in Madrid, Spain. The three-day event at the IFEMA center will feature hundreds of exhibitors and a conference agenda that includes seminars and presentations.

Chromalloy, which along with Lufthansa Technik and United Airlines operate BELAC as a joint

venture company, is a silver-level sponsor of the 14th Annual MRO Europe. For more information, visit www.aviationweek.com/events/current/meu/index.htm#. 



BELAC co-sponsoring first Aviation Maintenance International PMA Summit

BELAC LLC is an industry co-sponsor of the first-ever Aviation Maintenance International PMA Summit, scheduled for November 3-4 in London.

The conference, organized by Aviation Maintenance magazine and MARPA (the Modification and

Replacement Parts Association), will feature speakers from PMA (Parts Manufacturer Approval) companies and regulatory agencies including the FAA (Federal Aviation Administration) and EASA (European Aviation Safety Agency).

Leasing, finance and other industry experts also will make presentations on diverse topics. Sessions will explore issues surrounding PMA from a global perspective.

The two-day conference is designed for airline CEOs, sourcing directors, MRO Directors of Maintenance, engineering leaders, supply chain senior managers and industry leaders. Information and registration is available at www.avmain-mag.com/pma-summit. 