Component durability in specific environments

All gases, materials of construction, lubricants or sealants are not completely compatible. Blackmer engineers consider the gas analyses and these factors in the application and manufacture of the compressor in order to minimize potential problems from this occurrence.

Certain gas streams have components which can attack the compressor standard materials of construction. It is important that the complete gas analysis, including trace components, be made known to Blackmer so we may consider this occurrence for the gas containing parts. Also, the presence of such components in the operating atmosphere should also be known since they will affect non-pressure containing parts for the same reason. Based upon our experience and accepted industry approaches, materials can then be selected which are resistant to, but not necessarily impervious to, this attack. *The use of special materials, coatings or construction does not alter our standard warranty which excludes both wear and corrosion.*

The presence of water vapor in the gas stream during operation or its introduction during maintenance and shutdown are especially troublesome. Water vapor can produce a highly corrosive mixture with some gas elements. This corrosive mixture will attack the surfaces of the compressor and other system materials and can shorten the life of wearing parts. *The extent of this attack and the impact on component life is affected greatly by the attention given by the operator to prevention of this corrosive mixture and so no special guarantee or warranty can be offered in this regard.* Practical steps, however, can be taken by the operator to reduce the wear and extend the life of wearing parts in these services. These include the use of distance pieces purged during operation and purging and blanketing of the blocked-in unit with a dry, inert gas during shutdowns. Some gases in this category are:

Chlorine	Cl_2	Hydrogen Chloride	HCl
Carbon Dioxide	CO_2	Ethylene Oxide	EO
Hydrogen Sulfide	H_2S	Methyl Chloride	CH_3Cl
Ammonia	NH_3	Sulfur Dioxide	SO_2

Some gas components can breakdown and change the characteristics of the lubricants used in the crankcase and crosshead assembly. Some gases in this category are:

Ammonia	NH_3	TriMethylAmine	$(CH_3)_3N$
DiMethylAmine	$(CH_3)_2NH$	MonoMethylAmine	CH_3NH_2
Oxygen	O_2	Chlorine	Cl_2