

ALKASERTS®

flexible polyethylene inserts

**For New
and Used
Steam
Condenser
Tubes**

- Prolong Tube Life
- Prevent Inlet Erosion And Impingement Attack
- Filtering Action
- Installation Services Available



Conco Services LLC
Safer. Faster. Cleaner.

ALKASERTS®

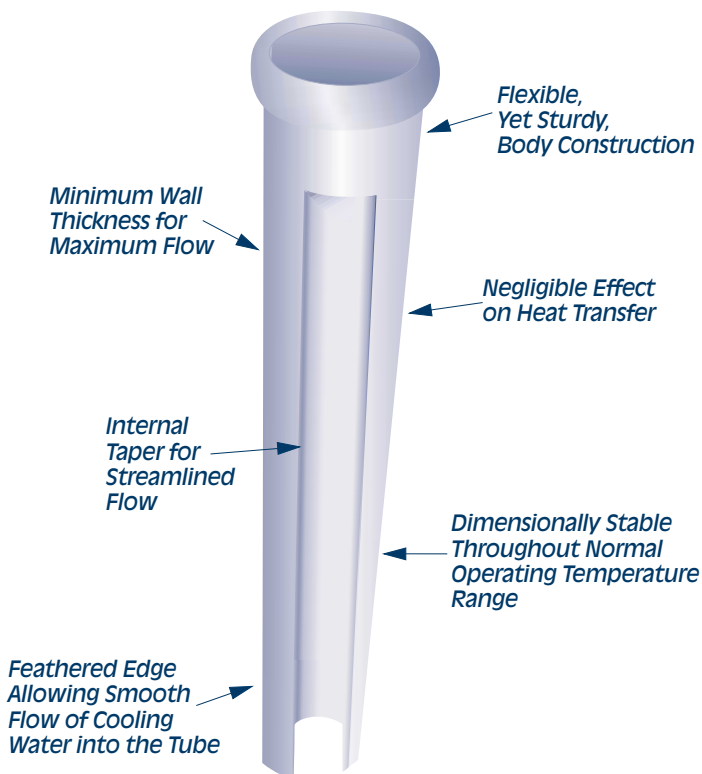
flexible polyethylene inserts

GREATLY PROLO

Widely used in electric utility power stations, industrial power plants and on ships – wherever inlet end erosion and impingement present a problem. Superior Alkaserts® polyethylene plastic inserts are designed to assure lasting protection to the inlet ends of new tubes and to greatly prolong the life of worn tubes damaged by erosion and impingement. Polyethylene Alkaserts are inert and highly resistant to erosion and abrasion. They are dimensionally stable well above normal operating temperatures of steam condensers.



"Expanded" Alkaserts – For New and Used Condenser Tubes



Failure and damage to the condenser tubes by erosion and impingement attack is often beyond the control of either the equipment designer or the engineer. The expense of retubing, forced outages and loss of efficiency must be taken into consideration. The obvious step of providing inlet end protection has been long recognized and practiced.

Ideally, inserts designed for the protection of condenser tube inlets should be made from a material highly resistant to abrasion. They should be flexible enough to accommodate normal variations in tube bores, yet rigid enough for easy insertion. The ideal insert should make a snug fit in the tube so that there is no danger of water seeping between the insert and tube and setting up crevice corrosion attack.

Alkaserts meet all of these requirements.

EXTENDING YOUR CONDENSER TUBE LIFE



BONNET



FLUSH

"Expanded" Alkaserts® to Fit New and Used Tubes

The need for erosion relief at existing installations resulted in the development of the "Expanded" Alkaserts plastic insert to permit installation in worn tubes. The "Expanded" inserts are made in graduated expanded sizes to match the wear pattern found in normal installations.

ALKASERTS SIZES AND DIMENSIONS*

TUBE SIZE**	NOMINAL TUBE I.D. DIMENSIONS	ALKASERTS DIMENSIONS Overall Length
3/4" x 18 BWG	.652	5"
7/8" x 18 BWG	.777	6"
1" x 18 BWG	.902	8"

* Special Alkaserts are available for other than above tube sizes & gauges.

** Alkaserts are available for Standard Low-Finned Air Conditioning Condenser Tubes.

ALKASERTS ADVANTAGES

- Easily & quickly installed.
- Conform to irregular tube surface conditions – streamlining flow over these areas.
- Inlet end streamlined – for smooth flow. Bonnet head gives protection to ends of tubes or ferrules.
- Internal taper – promotes streamlined flow.
- Dimensionally stable to 170° F – well above normal operating temperature of stream condenser.
- Unaffected by normal cleaning reagents.
- Affords – filtering action. Holds foreign objects for easy removal.

Two Types of Alkaserts Head Design

The "Expanded" Alkaserts can be furnished with either the "bonnet" type or "flush" type head.

The original Alkaserts were designed for ferrule-type installations and have the "bonnet" type head to cover the ferrule. The advent of "flush" rolled-in tubes and tube sheet designs that require closer than normal tube clearances brought about the necessity of modifying the "bonnet" so that the installed Alkaserts would be as nearly flush with the tube sheet as possible.

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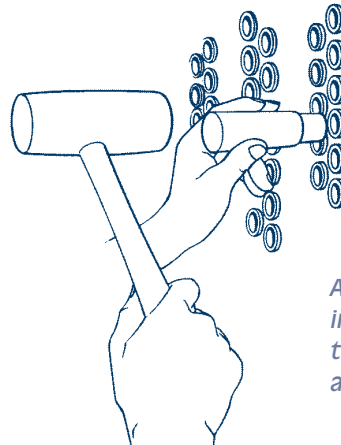
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FOR NEW AND USED TUBE INSTALLATIONS

1. Specify tube size (Example: 7/8" x 18 BWG).
2. Specify "flush" or "bonnet" type head.
3. Specify number of Alkaserts required. Base on number of tubes in a condenser.
4. Advise tube center line to center line dimension to determine "bonnet" clearance for either full "bonnet" or "flush" head units.
5. Upon receipt of above info – you will be contacted by our Service Department to obtain additional information to determine proper size.
6. Field service to obtain detailed fit of your tubes is available. To facilitate preparation for installation, special stainless steel brushes with extensions are available from stock. Persuaders as well as adhesive and a special designed application machine is available.
7. Advise manway size on waterbox.

Experienced field representatives are available to assist in the inspection and measurement of tube inlet ends in any condenser to determine the wear pattern or other faults. When an order is placed, we also will train and supervise your crew or provide complete installation services.

SIMPLE TO INSTALL ALKASERTS IN NEW AND OLD TUBES ALIKE



Alkaserts being inserted and fitted tight with "persuader" and light mallet.

Alkaserts are made to fit snugly into new and used tubes. The "Expanded" Alkaserts retain this quality because they are made oversized to match the varying degrees of wear found in a given condenser. Due to the roughness of eroded surfaces it has been found that the use of a lubricant aids in installation. Again, to assure snug fit of the Alkaserts in badly scaled tubes, it may be necessary to wire brush to remove the scale before installing the Alkaserts.

In practice, an "Expanded" Alkaserts is pushed in by hand until about an inch remains to be inserted. A "persuader" (made of wood or Micarta) is inserted, and the insert tapped home with light, sharp blows of a light mallet. In this way a tight fit is obtained between the insert and the inner tube wall providing protection against seepage under the Alkaserts.

Special inserts are available in ferrous and non-ferrous materials. We also are equipped to produce unusual configurations in polyethylene, nylon, polypropylene and other materials per your specifications.



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In addition to Alkaserts®, Conco provides exclusive products and services for:

- Tube Cleaning
- Tube Plugging
- Leak Detection
- Eddy Current Testing
- Performance Analysis