

The Westland Corporation

P R O C E S S O R

STEEL CHALLENGES = RENEWED COMMITMENT

Dave Larson, President of
Westland Corporation

The start of a new year is always a great time for reflection. I expect the year 2005 to bring some of the same challenges we have been facing the past several years.



Dave Larson

One of the "not new" challenges Westland faces is steel availability and increased costs. Due to China buying up enormous amounts of steel, these are real issues.

Even though Westland has been faced with some availability challenges, it has not greatly impacted our manufacturing schedule. Our company is set up to react quickly and efficiently to market changes and we continually monitor such activities.

We have no real solutions to these concerns plaguing all industrial manufacturers. This past year we passed some steel surcharges directly on to our customers in an effort to keep pricing as low as possible.

With the economy picking up and there being even more activity in the industrial sector, steel availability may become a bigger issue.

Through these challenges, Westland is committed to maintaining the strong reputation for customer service we have earned.

Westland has always been up-front on lead times and this practice will continue. We do not give you a bogus delivery date to obtain the order. Obviously, there are many other factors which can affect delivery, however, we do try to keep you as up-to-date as possible when your order is not progressing as first established.

Steel availability is still a concern, though, and it may affect delivery time when placing orders. If that is the case, you will be notified why our standard delivery time is not reflected.

Our success rests on your success. We understand you have deadlines to meet, and Westland will work hard to help you meet those dates by supplying you with our high performance components and processing assistance in a timely, informed manner.

This commitment flows from the top down. That is why our people make the difference, not only in our operation ... but also in yours. We are renewing our commitment to superior customer service and new levels of performance.

New this year for Westland is the ability to offer you bimetallic barrels produced from Reiloy barrel blanks. Be sure to read more about this inside this issue.

I am very optimistic about 2005. Early signs indicate more activity and increase. May we share in this together as we face the challenges this New Year will surely bring.

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CAN YOU NAME THIS TOY?

It was invented in Germany in 1919. Originally manufactured of wood, the first big shipment to the US was unsaleable. The long humid trip across the ocean caused them to warp. The inventor then developed a steel version. In the 1920's, Broadway shows featured dance numbers on them. Though not as popular as its earlier days, spin-off applications have been explored and some used. For instance, it has been considered as legs for robots and researchers studied the possibility of using a modified form as transportation to explore the moon. Another version of this toy is used by building contractors to support brick and stone arches under construction.

Answer Inside

(Information from www.usgs.gov website)

Barrel Material Guidelines

Although barrel design is in the province of the machine manufacturer, there are several choices of materials from which the barrel may be manufactured. The external portion (shell) of most barrels is a 4100 series alloy steel (usually 4140, 4150 or 4340) or a nitriding steel, although other steels with even greater strength are available where high injection pressures are expected to be encountered.

There are several alternative linings available which resist wear that we group into three types:

- Nitrided Barrels;
- Cast Bimetallic Barrels; and
- Tool Steel-Lined Barrels.

NITRIDED BARRELS

Nitrided barrels can be made from 4140 but a nitriding steel, such as Nitralloy 135M, enables a better nitrided interior surface to be achieved.

Nitrided barrels are not recommended for use with abrasive or corrosive



Cindy Hogarth, Randy Wise, Terry Williams

Contact Westland's Sales Department for a quote on your next barrel and screw set:

Randy Wise, Sales Manager

Terry Williams, Process and Sales Engineer

Cindy Hogarth, Inside Sales

resins due to their inability to resist wear over an extended time period.

CAST BIMETALLIC BARRELS

Cast bimetallic barrels are manufactured by metallurgically bonding the lining alloy to the inner surface of a pre-machined, seamless steel tube, forging or bar stock. The bonding is achieved by heating the barrel (and the lining alloy) to the point where the alloy is melted. The barrel is then spun and cooled, centrifugally casting the alloy on the inner surface of the barrel. The resulting lining is about 1/16th of an inch (.0625") thick throughout the barrel.

Bimetallic barrels are usually offered with a standard or premium liner.

Standard abrasion-resistant linings generally range from Rc58 to Rc65 and provide a much longer wear life than nitrided barrels. Corrosion resistant liners are also available.

Premium liners are superior to the other linings in resisting all types of wear. The very high hardness of the tungsten carbide particles, evenly dispersed in the matrix, provides abrasive wear unmatched by other bimetallic or nitrided barrels.

Westland is now stocking common sizes of Reiloy bimetallic barrel blanks. Reiloy is the premier manufacturer of this type of barrel. For more information, see the related story in this issue.

TOOL STEEL-LINED BARRELS

Westland tool steel-lined cylinders are a product with proven history. We have been providing these barrels to our customers since 1969. New cylinders are produced by machining prehardened 4140 alloy steel tubing to match OEM cylinder prints. The cylinder is then bored oversize by 1/4" to 1/2". Tool steel liners are produced to match the bore of the cylinder and meet or exceed SPI guidelines.

The liners are heat-treated to achieve maximum wear resistance and press fit to assure excellent heat transfer throughout the cylinder. The liners

are locked in place by a proprietary process to prevent any movement. Westland burns (EDM) and polishes the feed hole through the liner, producing a clean, smooth surface for the resin to enter the cylinder.

Westland Corporation is among a limited number of barrel manufacturers capable of lining the inside diameter of a new or used barrel shell with solid tool steel (or special alloy) liners.

Lining materials are selected for their resistance to wear. The tool steel choices include the following options.

D-2 is a tool steel heat-treated to Rc58-60. It is relatively inexpensive and has proven uniform wear resistance surpassing most other steels, including some cast bimetallic linings.

CPM10V (A-11 tool steel) is a particle metallurgy tool steel that is heat treated to Rc62-64 and is one of the most abrasion resistant materials available. It is manufactured by Crucible Materials Corporation.

CPMS90V (formerly known as CPM420V) stainless tool steel is also made by Crucible. It offers improved corrosion resistance and wear resistance. For barrel linings, this material is heat treated to Rc56-59.

Special Alloys include the nickel alloys that are used principally to combat the corrosiveness of fluoropolymer processing.

Westland can help you determine the best barrel material for your particular application. Call us today with your questions.





**Westland
Screws and
Cylinders Are
Creating
Quite a Stir**

**Barrel Material
Guideline Chart
Available**

**Our guidelines provide
a basis for selection
depending upon the
processing requirements.**

Request your copy by calling:

800-247-1144

or send an email to:

westland@westlandusa.com

**Additional information also
available on our website:**

www.westlandusa.com

**On the top navigational bar,
select products; cylinders;
then material guidelines.**

Answer to Can You Name This
Toy: The Pogo Stick, invented by
George B Hansburg.

**Westland Corporation
Now Stocking Reiloy
Bimetallic Barrel
Blanks**

Westland Corporation is now
manufacturing bimetallic barrels using
Reiloy cast barrel blanks.

Westland will inventory common sizes
of Reiloy barrel blanks in order to meet
our customer's demands.

This cooperative effort affords us
the flexibility of providing the plastics
industry's premier bimetallic barrel to
our customers on a timely and cost-
effective basis.

Reiloy, a division of Reifenhauser
Group located in Troisdorf, Germany,
has long been an acknowledged leader
in the bimetallic barrel industry.

Reiloy produces all the outstanding
alloys used in making their bimetallic
barrels. All armoring alloys are
developed in their own material
laboratory and are continuously tested
under tough operating conditions.

These barrel blanks differ from others
available in the way they are produced.
Typically bimetallic barrels are heated
in a gas furnace. When removed from
the furnace, they are centrifugally cast
in ambient air, providing opportunity for
residual stress due to localized cooling,
which causes straightening problems.

Reiloy's proven production process,
on the other hand, begins with the
barrels being heated by electrical fields

which cover the entire surface at once.
These encompassing electric fields
also mean the barrels can be cooled
under controlled conditions. This
guarantees a barrel absolutely free
from distortion, eliminating the need
for time-consuming, labor intensive
straightening operations.

Reiloy's high performance and high
quality values match our own. That
is why Westland is both excited and
proud to be able to offer them to you,
our customer.



**Reiloy's bimetallic barrels are heated
with electrical fields covering the entire
barrel at once.**

With this partnering, Westland
enhances its commitment to keep
our customers competitive by
manufacturing bimetallic barrels to our
high standards, using the Reiloy barrel
blanks.



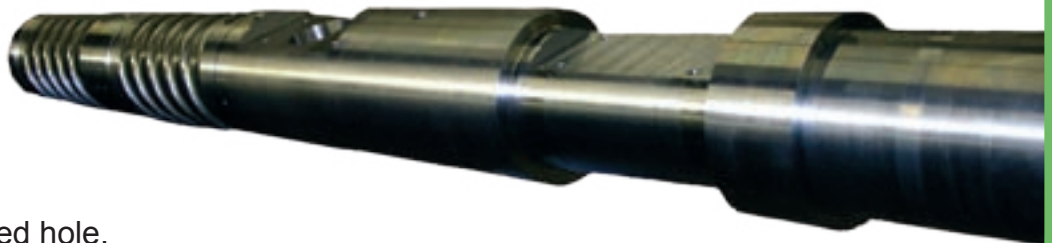
**Westland
Corporation's**
website address:

www.westlandusa.com

This Reiloy Premium
Bimetallic Barrel was
recently completed by
Westland. It featured a
grooved end, water jacket
channels and relocated feed hole.

Let Westland handle your special designs and needs.

Call us at **800-247-1144**. We are here to help.



**Congratulations
Richard Osman
On 10 Years Of Service
At Westland**



Dan Johnson, Rick Osman, Dave Larson

Richard Osman, pictured here between Dan Johnson, Vice President and Dave Larson, President of Westland, was recently awarded a pocket watch in recognition of his years of exemplary service at Westland Corporation.

Richard started at Westland as a Maintenance Assistant and currently is a Final Hone Operator. His experience and work ethic are valuable assets in producing Westland's quality components.

**The High Performance Philosophy
is the Same ...
The Joint Effort is New ...**



and



**TOGETHER
WE DO IT WELL!**

Westland is now stocking Reiloy bimetallic barrel blanks.

See inside to learn more about this tremendous opportunity to process with the industry's premier bimetallic barrel.

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