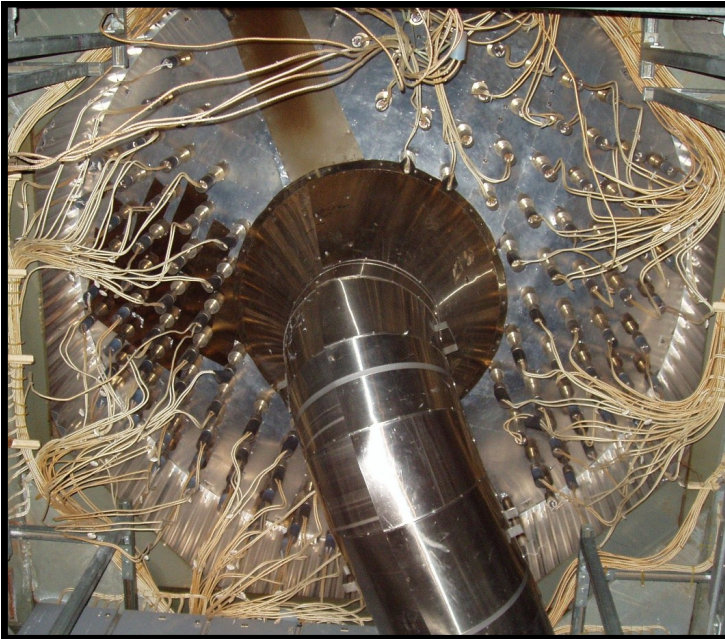


# Pressurizer Shielding (PZR) Packages

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## product

### product description

NPO offers PWR Pressurizer (PZR) shielding packages for all maintenance and Alloy 600 projects, including weld overlays, inspection and heater replacement. Packages include proprietary designs and/or engineering services leading to specialized designs. Mockup demonstrations and training with shielding packages is available.

Constructed of tungsten, iron and/or lead, NPO PZR shielding packages work in concert to maximize the shielding effectiveness for all PZR inspection, maintenance and/or repair activities.

### benefits

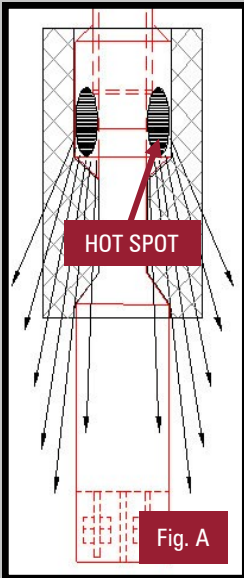
- Secure all PZR shielding from one source; all parts working in harmony.
- Maximize dose impact while minimizing installation time.
- Receive effective ALARA shielding solutions.

# Pressurizer Shielding (PZR) Packages

## Bottom Shielding Packages

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## T-Flex® Tungsten Heater Shields

Designed to maximize the attenuating (shielding) material adjacent to “hot spots”, located where the heater assembly is welded to the sleeve (Fig. A).

The moldable tungsten shields form-fit to the heater, resulting in significantly higher dose reduction factors. And, the time it takes to install is only a matter of seconds.

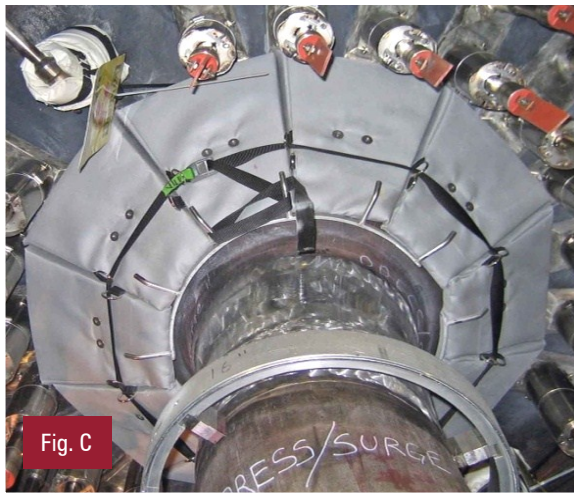
The illustrated PZR heater shields are made with NPO's molded T-Flex® material. Also illustrated are cylindrical sleeve shields applied above the heaters shields (Fig. B).





# Pressurizer Shielding (PZR) Packages

## Bottom Shielding Packages



## PZR surge line nozzle, inner bowl and surge line shielding packages

NPO proprietary designs are available for all PWR applications. NPO's quick install support ring secures semi-rigid nozzle/bowl shielding segments (Fig. C). The hooks on the support ring permit hanging lead blankets around and down the surge line.

A secondary clamping ring is often used to support lead blankets further down the surge line (Fig. D).

The Surge Line Elbow is often a significant dose contributor. NPO offers highly effective, specialized lead blankets that form around the elbow and are secured with integral fasteners (Fig. E). Note the magnetically supported lead snakes to augment the bowl shielding (Fig. F).

Specialized shielding is available for level taps and instrument lines (Fig. G).



# Pressurizer Shielding (PZR) Packages

## Top Shielding Packages

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## Shielding Packages for Top of PZR

NPO designed shielding for the top of the PZR include nozzle jackets, elbows/piping and shield mats.

With the proximity of the worker to the top of the Pressurizer while conducting inspections and projects such as weld overlays, shielding the top surface makes sense. These low-profile quick install mats with integral magnetic surfaces will remain fixed in place during all work activity.

Typical higher radiation sources, such as the spray and safety nozzles, are shielded with specialized single- or double-layer shield jackets.

Other elbows/piping located in the area above the pressurizer may contribute to the dose impact. Specialized shielding for elbows and piping are available.

