

All Screwed-up? Enter Wayne's World

By Wayne Meulendyk

Cut costs on UNR threads by knowing three simple facts. There is serious cash to be saved by reducing gage duplication. It is totally possible that you already own the correct gage to gauge that UNR series thread.

Internal Threads

First fact: There is no such thing as UNR internal threads. If the drawing specifies an internal thread as UNR, it is wrong. The draftsman made a mistake. All internal UN series threads use the same gage regardless if the requirement is for UN or UNR.

External Threads

Second fact: The amount of radius at the root of the external UNR thread is too small to require any special adaptation of the standard UN thread ring gages. Thus it is not required that the gages be marked UNR. Use the same ring gages to check either the UNR or UN external screw thread.

Third fact: The external thread root radius is controlled. Avoid rejected pieces by actually checking the root radius. The standard requires a root radius with limits of 0.108 to 0.144 times the thread pitch. Two methods are available to check the root radius. In low volume applications the use of an optical comparator may be an appropriate and acceptable. In high volume applications, a Tri-Roll gage set-up to monitor the minor diameter may be more cost effective.

For more information about the gauging of UNR Threads, read ANSI/ASME B1.1 or go to <http://www.ring-plug-thread-gages.com/ti-UNR-vs-UN.htm> for a detailed summary of the requirements of the standard. ⚙

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and durability of ...[the] A4," says Kaltenegger.

With immediate customer demands, Kaltech can't afford to stock specialized tools and does not have time to wait for them to be ordered and delivered. A4 is so versatile; one tool performs several functions, allowing fast cycle times and no turret indexes. It completes most of Kaltech's grooving applications, thus eliminating the need to purchase extra tools that only perform specific operations. This lowers inventory and costs.

"We run with two shifts, so the A4 tool is often left out on the shop floor," Kaltenegger says. "It moves around quite a bit, and if there's an application where it can be used, the guys use it."

When used in machining a total of 50 cable-tightening bolts, A4 saved Kaltech roughly 25 percent in costs. Kaltech saved approximately 20 percent per part in labor costs and approximately \$300 per part in insert costs. Hans Kaltenegger estimates a competitor's tool would have taken

five inserts per part to complete the job. ⚙

Article and photos provided courtesy of Kennametal.

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Josef Kaltenegger (left) reviews a blueprint for a product with Christiaens (right). As a job shop, Kaltech often receives last-minute orders, so it relies on the versatility of A4 to complete a number of different jobs.

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