

Acorn RTeditor is a utility that works with AcornPipe. It is part of an effort to enhance AcornPipe's handling of weld documentation, and in particular, random radiography requirements. It was recognized that the existing spec editor allowed for RT requirements to be entered in the form of notes to appear on the drawing, but the information in this form was difficult to convert to actionable parameters. Also it was recognized that the user needed to be able to overview and relate the RT requirements of all specs in a job at the same time.

RTeditor stores its information in the individual spec files but does not change any of the information recorded by the existing spec editor. To instal RTeditor, place the file RTeditor.exe in your AcornPipe program folder, which is often C:\Program Files (x86)\AcornPipe. You may want to create a shortcut for RTeditor and place it alongside the one for AcornPipe. RTeditor works alongside AcornPipe but not every user needs access to RTeditor.

When you launch RTeditor, it starts in the client and job being used by AcornPipe. On launch it compiles a list of all specs in the current job and reads the NDE parameters stored in those specs. RTeditor stores these parameters in portions of the spec file not actively used by the existing editor, and on first use it is common for it to find random information there, as in the example below.

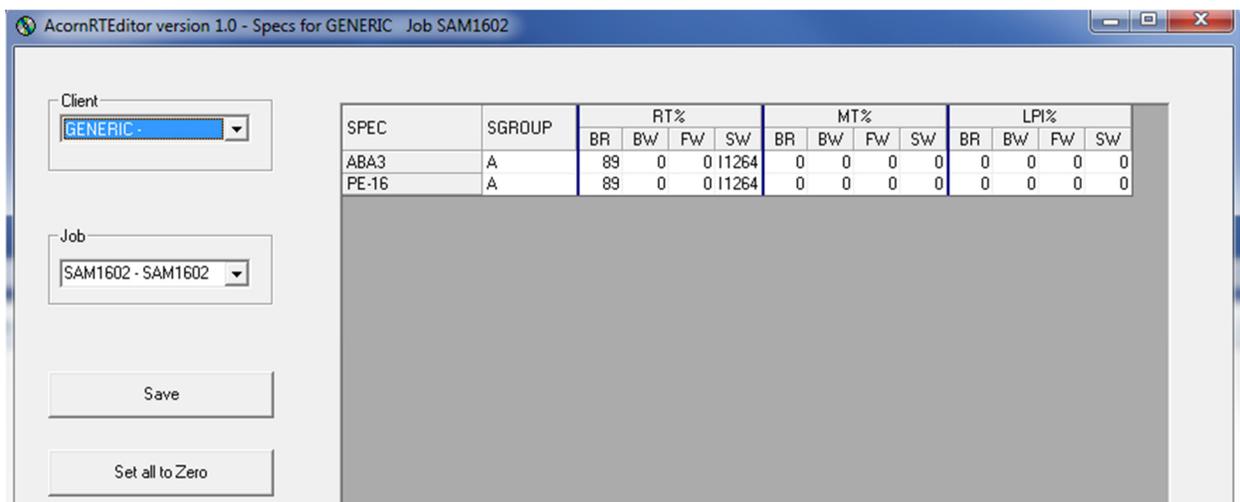


Figure 1 - Random Information on first load.

If you see random information as shown above, press the "Set all to zero" button and then the Save button before doing anything else.

BR, BW, FW, and SW denote branch welds, buttwelds, fillet welds, and socket welds. We refer to each of these as a weld “Genre” since each genre can encompass multiple weld types. In particular, the BW genre includes both buttwelds and miter welds since these are treated similarly for NDE purposes. The genres associated with various weld types are shown on Figure 2.

	Description	Abbrev.	Genre
A	Butt-Weld	BW	BW
B	Socket Weld	SW	SW
C	Olet Weld	Olet	BR
D	Hydro Weld	Hydro	
E	Sweepolet	Swp.	BR
F	Stub-On	Nzzl	BR
G	Stub-In	Nzzl	BR
H	Lateral Nozzle	Nzzl	BR
I	Dummy Leg	DLeg	FW
J	Mitre	Mtr	BW
K	Shoe/Anchor	Acc	FW
L	Reinf. Nozzl 90	Nzzl	BR
M	End Plate	Plate	FW
N	Slip-On Weld	SO	FW
O			
P	Coupling(Brch)	Cplg	BR
Q	Re-Pad Weld	R/Pad	FW

Figure 2 - Weld Types and Genres

SPEC	SGROUP	RT%				MT%				LPI%			
		BR	BW	FW	SW	BR	BW	FW	SW	BR	BW	FW	SW
A021-06	A021	0	5	0	0	0	0	0	0	0	0	0	0
A021-30	A021	0	5	0	0	0	0	0	0	0	0	0	0
A021-50	A021	0	5	0	0	0	0	0	0	0	0	0	0
A022-50	A021	0	5	0	0	0	0	0	0	0	0	0	0
A165-01	A021	0	5	0	0	0	0	0	0	0	0	0	0
A525-09	A021	0	5	0	0	0	0	0	0	0	0	0	0
AG		0	0	0	0	0	0	0	0	0	0	0	0
AUD		0	0	0	0	0	0	0	0	0	0	0	0
B021-01	BSERIES	0	5	0	0	0	0	0	0	0	0	0	0
B165-14	BSERIES	0	5	0	0	0	0	0	0	0	0	0	0
B445-01	BSERIES	0	5	0	0	0	0	0	0	0	0	0	0
D021-06	BSERIES	0	5	0	0	0	0	0	0	0	0	0	0

Figure 3 - Summary of NDE requirements

Figure 3 shows a more typical list of NDE parameters. In the configuration shown, the first five specs will all be treated the same, so they can coexist within the same weld lot. Specs AG and AUD will also be able to coexist in the same lot, but will be kept separate from the first five. Similarly, the remaining specs will also be able to coexist in their own lots but separate from the other eight specs.

If you want each spec to have its own dedicated lots, press the button “Copy Spec Name to SGroup”. If there is no restriction on mixing specs in the same weld lot, you can enter the same SGroup for all lots, or even just make all SGroups blank.

When you hit the Save button, the SGroup, RT%, MT% and LPI% information is written to the individual specs. The MT% and LPI% information is not currently used by AcornPipe.

To control the conditions under which welds can be added to an existing lot, press the Settings button.

AcornRTEditor - Settings for NEWCLI Job 20150409

Target number of welds per lot:

- 20 welds per lot, regardless of RT%
- 10 welds if RT%=10, 5 welds if RT%=20, otherwise 20 welds per lot

Separate lots by procedure:

- Welds in a lot must have the same procedure
- Ignore welding procedure when assigning lot numbers

CONDITION 1: Close a lot to new welds if:

- A weld in the lot has been marked TEST, PASS, or FAIL
- A weld in the lot has been marked PASS or FAIL
- A weld in the lot has been marked FAIL
- Do not apply condition 1.

CONDITION 2: Close a lot to new welds if: needed to

- Avoid dates spanning more than days
- Do not apply condition 2.

Done

Cancel

In one of the stricter interpretations of the American Society of Mechanical Engineers (ASME) Code B31.3 regarding random radiography, a welding lot should be closed to new welds before any of the welds in the lot are selected for testing. This is because the added have a diminished chance or often no chance at all, of being tested. To implement this interpretation, choose the first option under Condition 1 above.

At the same time, part of the rationale for testing is to provide feedback to the welder in case something is going wrong. And early feedback can be very useful, especially at the start of a job. If you habitually RT one of the first three welds of each welder, that might signal to the welders that they can pay less attention to the remaining welds in their first lot. One countermeasure might be to make the first lot smaller than later ones. This may lead to up to one extra RT for each welder, but may be considered worth it. It may well happen automatically if you choose the first option under Condition 1 and you start testing early in the job.