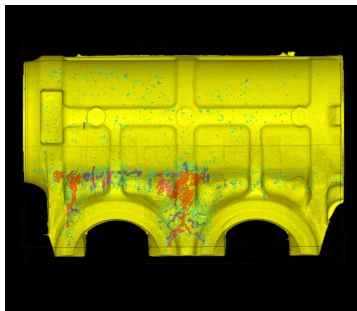


**RYOEI**

# Casting Inspection Service

Inspection and other services for casted aluminum parts

RYOEI provides thorough inspection services for your casted parts to provide you with the information you need to maximize quality and hone your production processes. With CT scanning capabilities, hardness testing, tensile strength testing, and more, we can provide comprehensive analyses to provide you with the information you need to optimize your process.



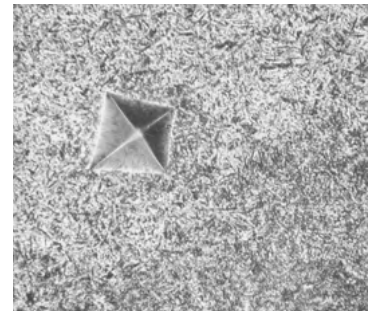
Micro CT Scan

Investigate porosity with 3D images of scanned parts, defect rate, defect volume, and more.



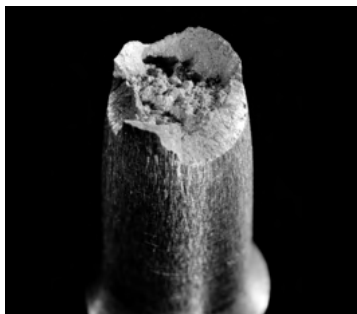
Mass Spectroscopy

Receive an in-depth analysis of alloy composition using mass spectrometry.



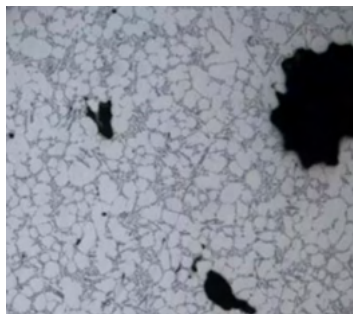
Hardness Testing

Assess your alloy and casting process with hardness testing using the Vickers hardness test.



Tensile Strength

Analyse stress, proof stress, test force, and elongation with a load capacity of 50 kN.



Optical Microscope

Examine internal structure and defects with magnification up to 1000x of casting cross-sections.



Electron Microscope

Inspect the surface of casted and forged parts, with a maximum magnification of 5000x.

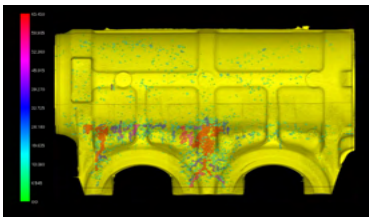
**RYOEI**

# Micro CT Inspection

Comprehensive analysis of porosity for targeted refinements to your casting process

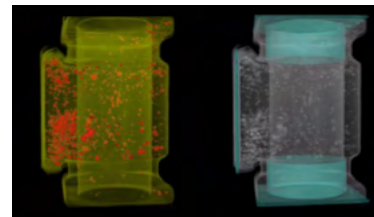
RYOEI's CT analysis software is capable of identifying acceptable and unacceptable porosity according to your specifications, allowing you to further automate your inspection process. We can preform CAD to part comparisons, porosity sorting, and more.

Porosity Sorting



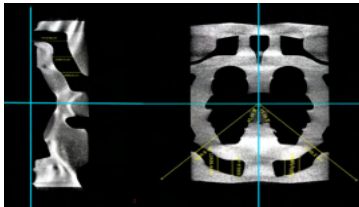
Sort porosity by size, and apply filters to visualize porosities that match your parameters

Region of Interest Inspection



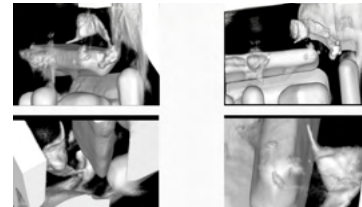
Isolate areas of interest so you can focus on analysing specific regions of your castings.

Cross Section View



Inspect porosity using a 2D cross section

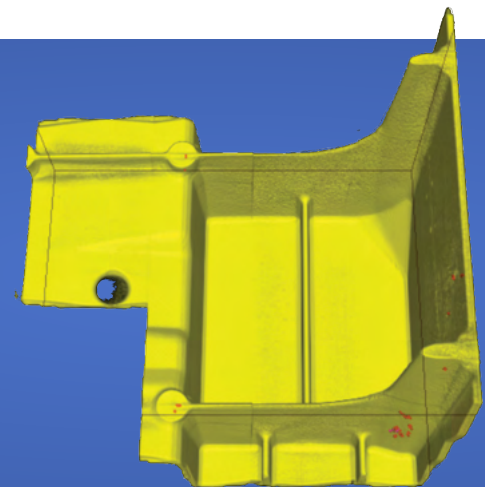
Inverted Cavity Display



Visualize porosity using an inverted cavity display

## The Power of Micro CT

Would you like to know whether your porosity is caused by shrinkage, entrapped gass, or dissolved gasses? The latest research on CT inspection suggests that we can classify porosities by causation based on size and shape. Use our micro CT services to help you determine the cause of your porosity, and implement targeted solutions to improve the quality of your parts.



**RYOEI**

# EcoClear

For clearing rust and scale from die cooling channels, steel components, and more

EcoClear softens water and removes scale from steel and iron surfaces. Its anti-corrosive effect on aluminium, copper, and steel protects your equipment and keeps it functioning smoothly. Use EcoClear to maintain or clean die cooling channels, machined parts, machine tools, and more.



Removal of scale and mineral residue from surfaces.



Softens water and breaks down oil, algae, and bacteria



Protects rubber parts from breakdown in water



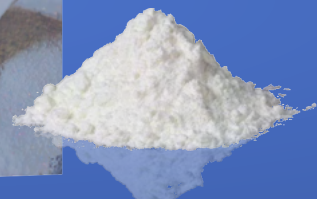
Safe cleaning agent labeled GHS non-acute oral toxicity



Biodegradable and RoHS Compatible

## Why EcoClear?

EcoClear is specially formulated to minimize environmental impact. Since it is biodegradable, there is no need to use a neutralizing agent with EcoClear. An EcoClear dilution improves water and wastewater quality, reducing biochemical oxygen demand (BOD) and chemical oxygen demand (COD).



# EcoClear

Industrial use cases

EcoClear is effective in several applications, from cleaning die cooling channels to the factory floor. Use it to clean metal surfaces, soften water, treat wastewater, restore surface finish on steel components, or remove oil and grease from machined parts.



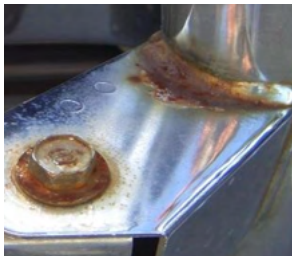
### Die Cooling Channels

An EcoClear solution was circulated through die cooling channels using a closed-loop pump system for 29 hours. Scale and rust are effectively removed, improving flow rate and maintaining cooling abilities.



### Pistons

Pistons are submerged in a EcoClear solution to improve luster and surface finish.



### Coated Weldments

Coated weldments are restored to their original condition using EcoClear.



### Factory Floor

EcoClear is used in to enhance the effectiveness of a floor buffer to remove rust, oil, and dirt from a factory floor. Luster is restored and the surface is noticeably cleaner.

RYOEI's CT analysis software is capable of identifying acceptable and unacceptable porosity according to your specifications, allowing you to further automate your inspection process. We can perform CAD to part comparisons, porosity sorting, and more.