Dyndrite LPBF Pro

PROCESS QUALIFICATION & CALIBRATION

**Dyndrite**
Ignite your purpose.

Process qualification & calibration accelerated.

## Leverage Dyndrite LPBF Pro to reduce your setup and verification time.

As a Quality Engineer, performing regular calibration and qualification ensures that production is repeatable and predictable over time. This includes parts being made to an acceptable standard and 3D metal printing machines performing within specification. For manufacturing repeatability, the process, the machine, and the parts must all be qualified and variables must be understood and accounted for. Process repeatability uses qualification and calibration outputs to ensure (a) setup remains unchanged and (b) outputs remain within tolerances from build to build.

Dyndrite LPBF Pro reduces the setup and verification time by automating the build layout, parameter assignment, labeling, and logging process. Python scripting, programmable APIs, and shareable build recipes means creating design of experiments (DoE), is fast, repeatable, and reusable.

In industries that use metal additive, qualifying a new material from scratch can cost up to a million dollars and several years to complete. Leverage Dyndrite LPBF Pro to dramatically reduce this time, saving money and getting to market faster.
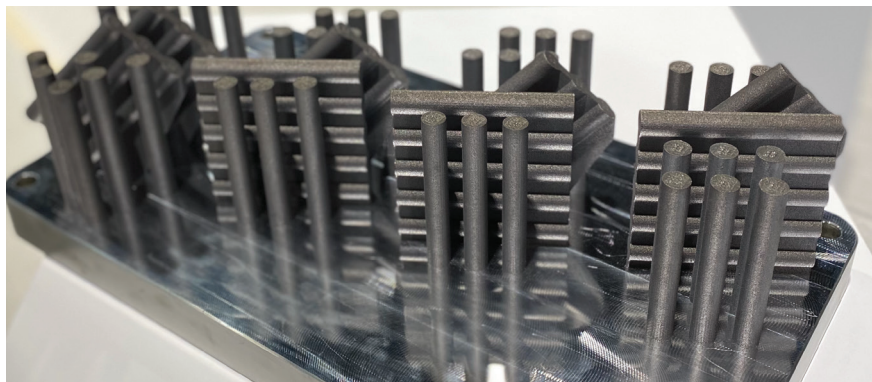
LPBF qualification build printed on the SLM© 500 using AlSi10Mg shows precise toolpath control.
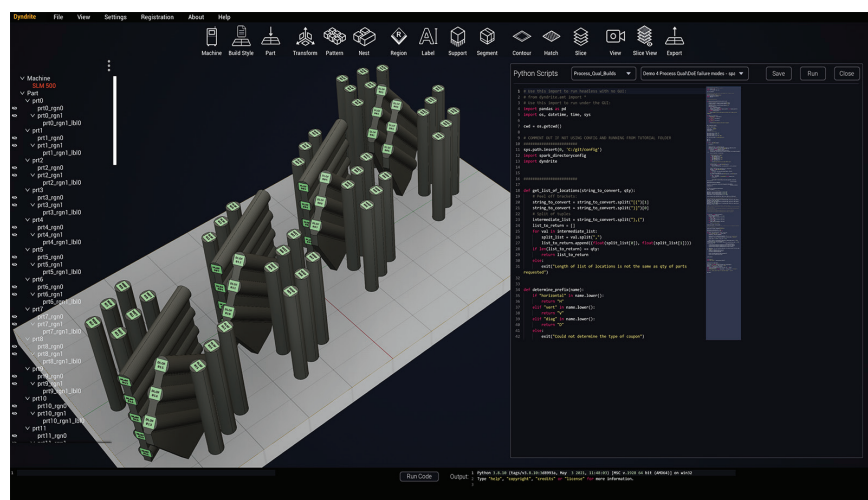
Create qualification builds with automatic part placement, orientation, and labeling. Easily iterate using built-in Python scripting. Import or export data to any third party application or database.

Why Dyndrite for Qualification & Calibration?

Setting up additive manufacturing qualification and calibration processes can be an incredibly time-intensive and expensive effort. Every detail, from the particle size distribution of the powder to the density of a specimen on the build tray, must be entered into a database. Specimen measurements, dates, times, positions, material lots, and serial numbers must all be captured. It must also be continually performed to ensure part consistency from each machine over time.

Through the use of Dyndrite LPBF Pro build recipes, you can design and repeatedly use automated qualification and calibration workflows. These build recipes can follow rules to, for example, automatically place all your parts, then place specimens next to them, apply multiple labels to each based on location or a CSV, and automatically generate a report that can be populated in any database or third-party manufacturing execution system (MES).

- ✓ Quickly arrange, orient and serialize a specimen build
- ✓ Serialize with multiple labels or QR codes
- ✓ Automatically build databases for qualification and production
- ✓ Use high layer height strategies
- ✓ Ensure traceability throughout the product life cycle
- ✓ Query geometric information such as volume or laser exposure
- ✓ Quickly test multiple builds for repeatability
- ✓ Generate reports and travelers

Schedule a Demonstration
See how **Dyndrite LPBF Pro** can unlock your LPBF-based parts, materials, and processes. Reach out to us at **dyndrite.com/vip**

Qualification & Calibration Features

Eliminate tedious and error-prone manual methods. Leverage Dyndrite build recipes to create automated Q&C workflows.

Labeling and Part Making

You can attach multiple labels to each part, including options for multi-pin labels, images, QR codes, and dynamic generation of centroid labels. The system also offers support for international fonts.

- ✔ Multi-line text, images, QR codes
- ✔ Surface wrapping
- ✔ Region or color specified
- ✔ Multiple labels (easily handle 3+ labels on a part)
- ✔ CSV or database driven
- ✔ Automatable and dynamically generated
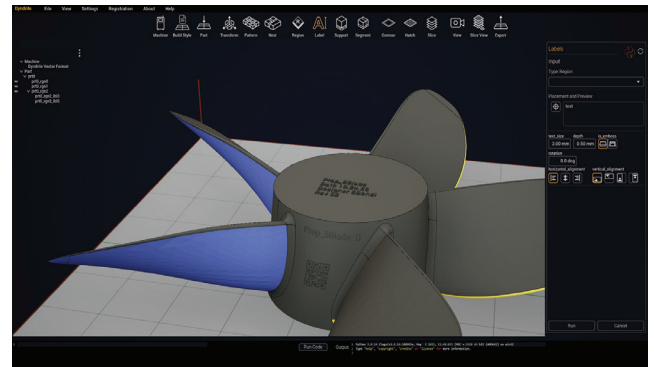
Apply hundred of labels or images, directly or automatically.

Report & Traveler Generation

Automatically build databases for qualification and production to ensure traceability throughout the product life cycle.

- ✔ Build volume queries
- ✔ Part density, part location, tool ID
- ✔ Slice area graphs
- ✔ Automated screenshots
- ✔ Flexible report generation
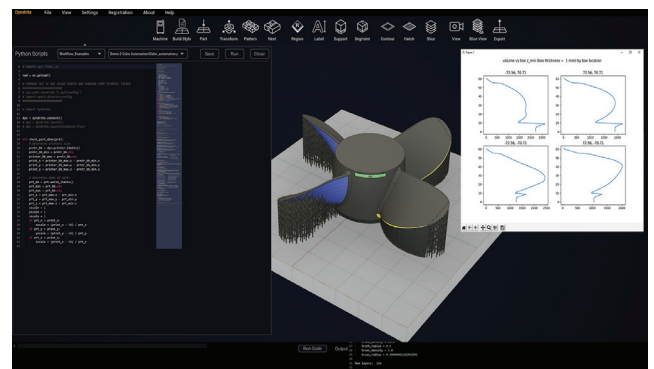
Sample auto generated report of slice area by plate quadrant.

Database Integration

Easily connect with external databases or other third-party MES or other factory systems.

- ✔ Build export
- ✔ Data export to CSV/Excel
- ✔ Online database connectors
- ✔ Custom integrations via python apis
- ✔ MES and online database integration
- ✔ Automated geometry query based build traveler generation
- ✔ Parameter, tool, and location logging

Sample auto generated database of parts, builds, labels, and locations.

Customized Qualification & Calibration Recipe Builder

Easily connect with external databases or integrate with third-party MES and other factory systems.

- ✔ End user calibration repeatability
- ✔ Custom and pre-baked qualification for end customers
- ✔ Fast iterations
- ✔ Growing library of out of the box build recipes
- ✔ Rules based specimen placement
- ✔ Build location based part scaling
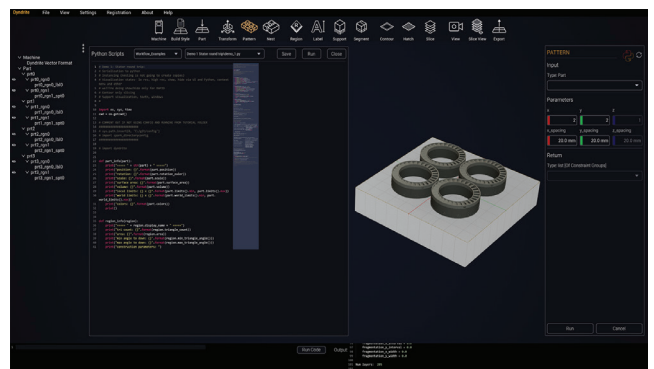
Build recipe for automated qualification builds.

See how Dyndrite LPBF Pro can unlock your LPBF-based parts, material, and processes.
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