



Facility safety management services

Mitigate AM specific hazards and achieve conformance



The introduction of Additive Manufacturing (AM) technologies has the potential to transform modern industrial production, but it also brings new considerations for manufacturers and their employees. These considerations include potential safety risks associated with AM materials, equipment and production facilities. The introduction of AM capabilities can be particularly complex in existing production facilities with established safety management practices. UL AM Facility Safety Management Services are designed to help AM technology users manage the inherent process risks within an AM facility and achieve conformance to regulatory requirements and industry standards.

Combining AM industry expertise with existing services, such as Field Evaluation, Hazardous Locations, Workplace Health & Safety, Building Materials and Fire Safety, UL is uniquely positioned to provide leading facility safety solutions. Facilities are evaluated against the requirements of UL 3400, the Outline of Investigation for Additive Manufacturing Facility Safety Management. To date, UL 3400 is the AM industry's first resource to provide guidance around how safety and AM come together. It references applicable standards from OSHA, NFPA, UL and ASTM among others. The outline is structured in a modular manner so it can be easily adapted for regional code and safety requirements.

Identify and manage AM facility hazards

UL helps facilities reduce the risks within an AM facility via phased approach:

Phase I: Site assessment and evaluation plan – Onsite assessment of AM facility, including layout, material handling and storage, AM and ancillary equipment, workforce and hazardous locations. Includes identification of near term and future state safety considerations and opportunities for immediate remediation, as well as a detailed course of action to achieve optimized safety and operational guidelines, including abatement, mitigation and management.

Phase II: Final review/readiness assessment – Review of Process Hazard Analysis (PHA) and assessment of process safety management system elements for operation and maintenance of the AM facility. Includes confirmation and review of SOPs and required safety documentation in accordance with UL 3400.

Phase III: Certification – In addition to Phases I and II, organizations pursuing certification against UL 3400 are also required to:

- Have AM equipment certified or evaluated by a third party;
- Workforce safety training focused on AM process safety management and the identification and management of machines, materials and hazards; and
- Conduct ongoing surveillance to ensure continued maintenance of safety management practices.

Upon meeting the requirements of UL 3400, facilities will be issued a certificate and digital badge.

For more information, email additivemanufacturing@ul.com or visit UL.com/am.



Evaluating your AM equipment for safety

National, regional, city and other municipality regulatory requirements establish that electrical products be certified or evaluated by a recognized third party before they can be approved for use. Products that do not have a certification acceptable to the Authority Having Jurisdiction (AHJ), owner or other regulatory body or have been modified in the field, can receive a UL Field Evaluation to meet this requirement.

AM Field Engineering Solutions: Products are evaluated to the applicable product safety standard(s) for the specific application and location where the product is being utilized. This process can be applied to products that are already installed or destined for installation at a designated end use site. Our Field Engineering Service is accredited as a Field Evaluation Body under the NFPA 790 and NFPA 791 guidelines.

UL and the UL Mark: The UL Mark is the most widely recognized and accepted third-party certification mark in North America, giving products the surest route to product acceptance by authorities, regulators and vendors. Over 88 percent of the AHJ's surveyed prefer working with Field Engineering Services. Our extensive professional expertise and network assures our customers will meet schedules and timelines.

Contact us at Field@ul.com to learn more!

An approach to safety for every AM experience level

UL AM Facility Safety Services addresses the needs of the following audiences:

- Organizations new to, or in the early stages of, integrating AM may be unaware of what is required to provide a safe AM environment that meets existing standards and regulations.
- Organizations that have already implemented AM may be unaware of, or wish to improve upon, how to properly manage AM process and material hazards.
- Code officials seeking technical assistance to approve an AM installation.



Get started today

Contact UL to schedule an appointment with one of our AM Facility Safety Engineers. We'll discuss your needs and develop a plan to achieve your facility safety objectives.

For more information, email additivemanufacturing@UL.com or visit UL.com/am.