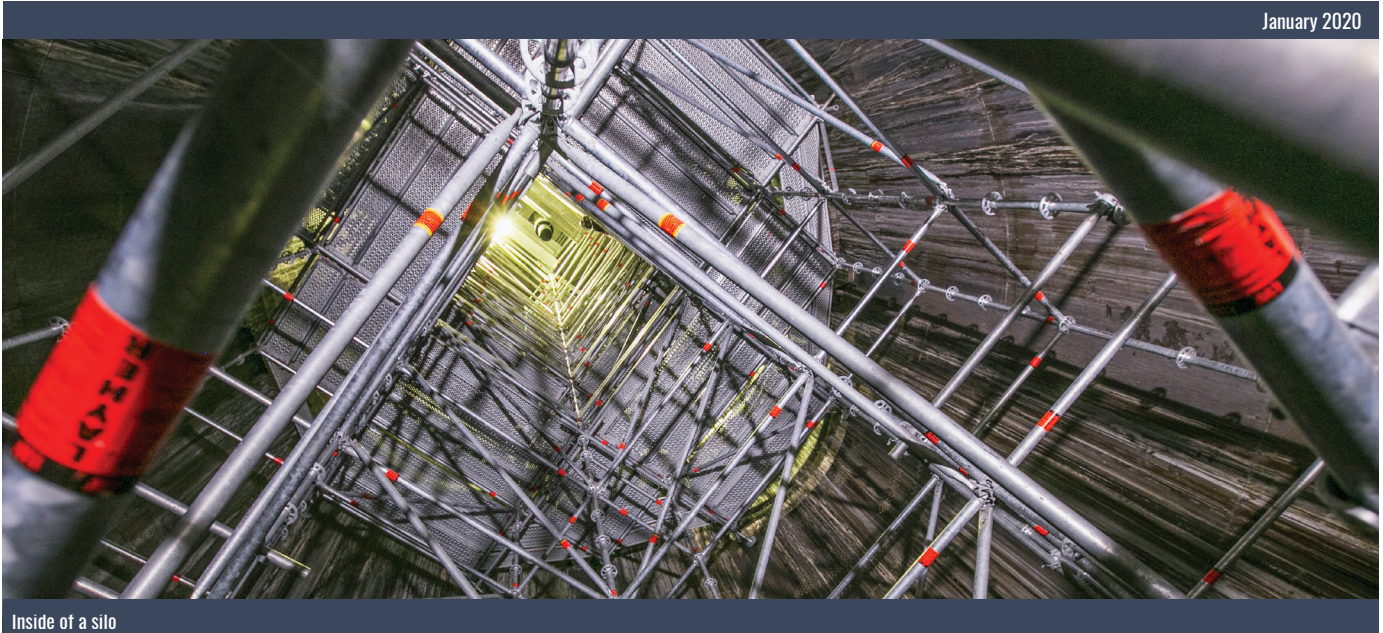


January 2020



Inside of a silo



INCREASED PRODUCTIVITY AND SAFETY IN THE PULP AND PAPER MILLS-THANKS TO LAYHER SCAFFOLDING

In the pulp and paper mill industry the words productivity and safety, have traditionally been considered mutually exclusive. That implementing extensive safety measures to a project would have a negative effect on productivity goals, or vice versa. With increasing pressure on pulp and paper mills to complete any construction project with minimal shutdown time and on budget, many in the industry felt something had to be sacrificed. Yet, there is a solution.

With over 70 years of experience Layher has developed the best scaffolding systems in the world. Theirs is the leading scaffolding for the pulp and paper mill industry. As such, Layher continues to be at the forefront of scaffolding innovation and understand the fine balance between productivity and safety. Whether you're building an impregnation tower, replacing pipe racks, or updating a sodium recovery boiler, safety should never be sacrificed for productivity. Layher has designed four fundamental solutions to increase productivity while maintaining safety for any pulp and paper mill construction project.

FIRST: SAFER AND SIMPLIFIED ACCESS TO AND FROM THE SCAFFOLD



Traditionally scaffolding used in the pulp and paper mill industry has consisted of conventional ladder access. This allows employees to work on different platforms. According to OSHA regulations (Occupational Health and Safety Administration) a climb of up to 35 feet requires a resting platform. A fall arrest system including a harness, connector, and anchor are only mandatory for scaffolding higher than 10ft (7ft in California). Yet, a fall from a low level can be just as dangerous for the worker on the scaffolding, those below and the site equipment. This is exacerbated by the fact that when using ladders, special logistical considerations must be made for materials and tools needed on the project.

Layher has developed its Allround scaffolding, with its revolutionary simple stair system. It is the premier scaffold for the pulp and paper mill industry. Engineered with guardrails on both sides, this type of scaffolding is more comfortable and ergonomic to climb. Tools and materials can easily and safely be carried up and down floors, eliminating the need for additional vertical logistics to move to and from the working platforms. The stairs are made from one piece of metal, meaning they can be quickly assembled to reduce plant shutdown time and increasing OEE (Overall Equipment Effectiveness).

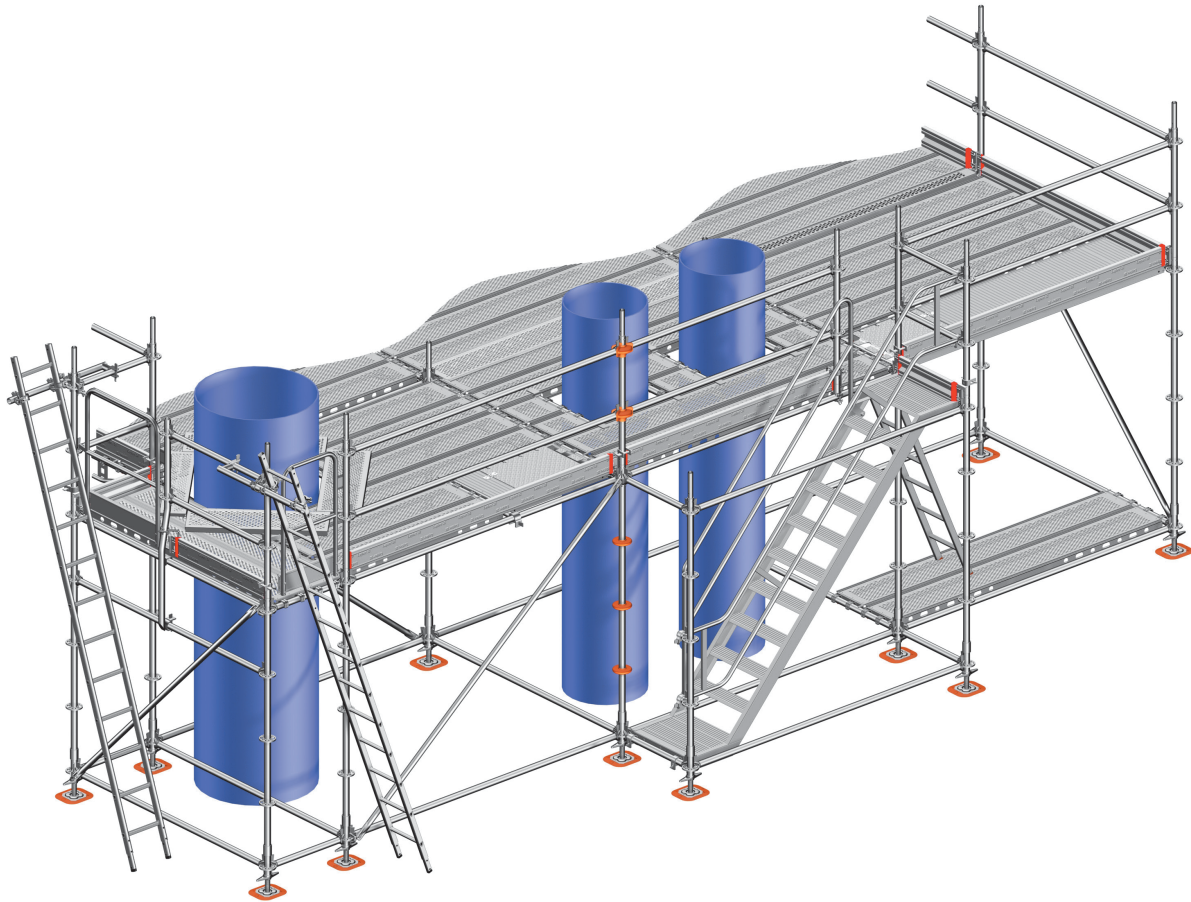
YOUR BENEFITS AT A GLANCE

- Safer and simplified scaffolding
- Versatile and reusable all-metal materials
- Utilizing engineering principles to unlock the value of planning
- Ongoing product training and education

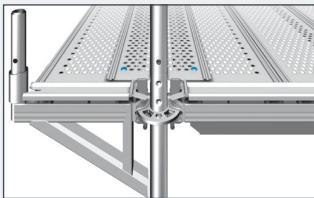


SECOND: VERSATILE AND REUSABLE ALL-METAL SCAFFOLDING

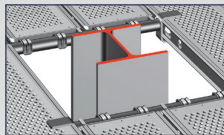
All-metal scaffolding design has evolved tremendously in the last decade. At the forefront of this progression is Layher's Allround industrial scaffolding solution. Its unrivaled versatility provides a variety of different systems to meet the requirements of almost any project in the pulp and paper mill industry, from repairing a power boiler to converting a digester. Allround is made entirely of non-combustible metal, making it durable to the wear and tear of regular use and most weather conditions. It offers a variety of custom safety solutions and is reusable making it a sound investment.



All-metal scaffolding can be rapidly assembled reducing planned shutdown times and eliminating the need for time consuming custom builds. Below are some standard solutions used in a pulp and paper mill. Layher carries a wider variety of accessories in addition to those listed.



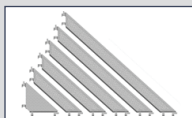
Low profile decks to close gaps and reduce tripping hazard.



Deck to deck ledger to tightly build around obstacles.



Extension decks to adapt to various cover length.



Corner decks to build scaffold as close as possible to corners.

THIRD: PROFESSIONAL SCAFFOLD ENGINEERING SERVICES

Though OSHA requires a system scaffold to be engineered if its height exceeds 125ft, many industrial applications require it at lower height. This is done to make sure industry specifications are met, and expensive equipment does not get damaged. Many in the pulp and paper mill business prefer using engineers because it can increase productivity without compromising safety.

Increased safety with documented quality

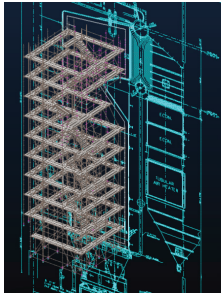
For this reason, Layher offers their extensive engineering services and support to help their clients achieve their goals. With 75 research and development engineers in their Germany and North America offices, they are an accredited authority able to extensively test and publish the loads of all Layher scaffolding. By implementing a tight quality control system, they can ensure their scaffolding products are consistently manufactured to the highest engineering quality standards.

Productivity with 3D models and augmented reality

Layher's engineering department also supports planning and efficiency programs such as Lean Six Sigma, by creating 3D designs for specific applications. This approach provides pulp and paper mill operators an unparalleled overview of their project. Together with Layher's engineers they modify the design such as needing more scaffolding, different or more types of access.

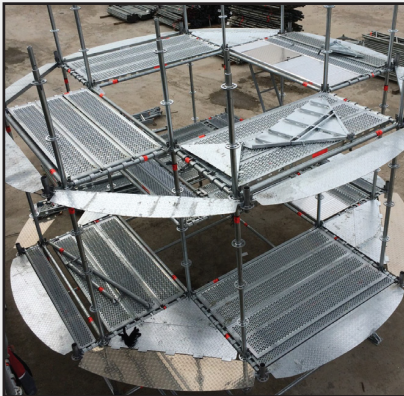
Using modern planning technology, such as Augmented Reality as well as 3D models, work can often start 12 months before shutdown. For larger scaffold projects such as turnarounds, this type of advanced planning and preparation can generate substantial cost savings by minimizing shutdown times, and of course increasing productivity without compromising safety.

Custom Engineering

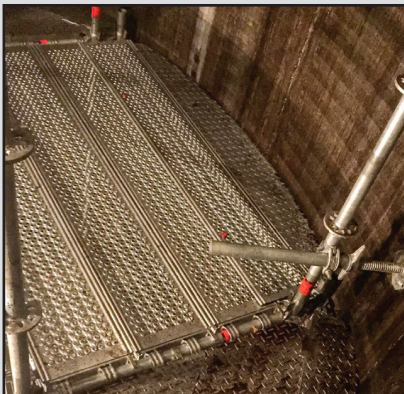


Often during the initial planning phase, a client will opt for custom parts to effectively execution of their project. With Layher's extensive engineering expertise they have the capabilities to design and manufacture specialized accessories or equipment.

Below is an example of custom arched decks that were engineered and manufactured for a vessel at a pulp and paper mill.



Test setup of arched corner decks for vessel.



Scaffold installation within vessel achieving an all metal scaffold with minimum edge distance.

FOURTH: ONGOING TRAINING AND ON-SITE SUPPORT

The scaffold industry is constantly evolving with enhanced safety standards and innovations leading to increased productivity. It is for that reason, Layher feels it's important to maintain regular communication with all of its pulp and paper mill clients both past and present. As a part of that, the company offers ongoing product training and on-site support to all of its clients when needed. Whether it's scaffold safety training, specific product instruction, or discussing issues unique to a client's situation Layher can help.

Layher North America

With offices in 38 countries, Layher continues to remain at the forefront of the scaffolding design and engineering industry. As the world's largest privately-owned scaffold manufacturer, their goal is to assist pulp and paper mill companies in increasing productivity without sacrificing safety. For more information on what Layher can do for you, please contact them at: 1.866.667.3151

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