Best practice

Industry

Mechanical Engineering

Area of use

Laboratory

Customer

PALFINGER AG

Main products:

Loader cranes, access platforms, hook lifts etc.

Employees:

750 employees at the Lengau location
Approx. 10,000 employees worldwide

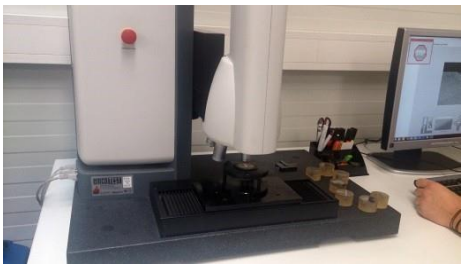
Locations:

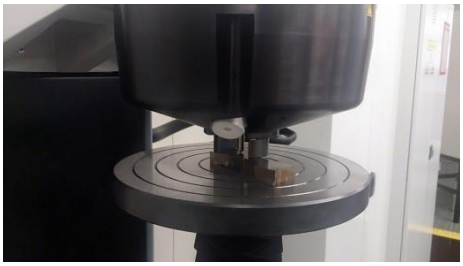
35 plants worldwide, 3 are in Austria
4,500 sales and service centers in over 130 countries on every continent

The Palfinger AG Company was founded in 1932 as a fitter's workshop. Today the company is known for the **most innovative, reliable and efficient lifting solutions** for use on commercial vehicles and in the maritime field.

Palfinger is the **global leader** in the **loader crane** sector with a market share of more than 30%. The construction of the loader cranes is for the most part completed at the Lengau facility, and then they are subject to very strict quality control. Palfinger is also the **world's leading manufacturer** of forest and recycling cranes as well as hook lifts. The product range also includes tail lifts, high-tech railway systems, bridge inspection units, truck bodies and pickup tail lifts.

Requirements





Premium-quality micro and macro hardness testing machine

As a leader in innovation, Palfinger aims to continue to revolutionize products and press forward with intelligent system solutions, unique functionalities and new product developments that shape the industry. In order to ensure this, the **CCF Analysis Centre** was established at the Lengau location. Components from all the Palfinger plants worldwide are sent to Lengau to be tested.

The premium manufacturer does not leave anything to chance. The quality, load capacity, and durability of the products can be tested in an ultra-modern laboratory with state-of-the-art equipment.

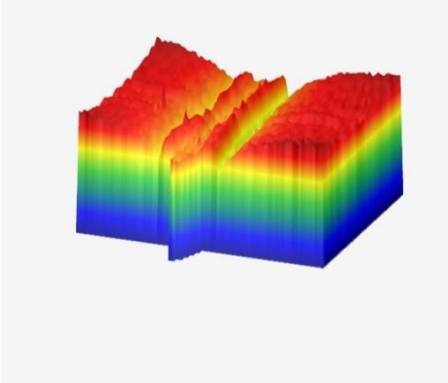
Apart from testing procedures such as light microscopy, spark spectroscopy, gamma spectroscopy, residue analysis, and corrosion tests, **hardness tests** comprise an **important aspect of quality control.**

High-strength fine-grained steel must be inspected every day. Cast steel, aluminium and plastics are also examined during series production and initial sampling. Daily production orders as well as inspections based on the latest research projects are carried out. This leads to the need for new hardness testers for both micro and macro hardness testing.

The hardness testing machines must meet the following **requirements:**

- Tests for **various materials**
- **Testing procedures:** single measurements, serial measurement, CHD measurement
- **Testing methods:** Vickers, Rockwell, Brinell
- **Test parts:** welding samples
- **Fully automatic evaluation**
- **Large number of test points**
- **High product quality**
- **High reliability**
- **Comprehensive visualisation of results**
- **User friendliness**
- **Product, service, and calibration from one provider**

Solution



A solution for everything: Micro hardness tester DuraScan 70 & areaMASTER Macro hardness tester DuraVision 30

Single measurements, serial measurements and **CHD measurements** can be taken with the **DuraScan 70.** The **load range from 10g to 10kg** covers all methods required by customers. The **patented load system,** which consists of a combination of a dead weight system and an electronically controlled loop utilizes a load cell, ensures absolute reliability and accuracy. The fully automatic evaluation is carried out by the intelligent control function **ecos Workflow Image.** It optimizes the brightness and sharpness and measures the indent. The automatic adjustment of the picture parameters ensures always reproducible test results even for different test surfaces. The **ecos Workflow SmartFocus Technology** guarantees sharp pictures up to 60% faster than before.

The software module **areaMaster** is the perfect supplement to DuraScan for more complex testing tasks. This convenient tool, which is integrated in the operating software ecos Workflow, supports laboratory users who want to **place large numbers of testing points on a defined surface or along the edge of the specimen.** The edge of the sample can be digitized either completely or in partial segments with the **Edge Assistant.** The integrated **hardness map,** a color picture of surface hardness distribution, ensures **optimal visualization** of the results. This opens a new dimension in information and presentation quality.

The **universal hardness tester DuraVision 30** was selected to deliver macro hardness tests. The **hand wheel** version is ideal for testing small components. It can be optimally positioned and clamped. The load range extends from **10kg** to **3000kg.** The turret is equipped with Rockwell, Vickers and Brinell indenters as well as the required objective lenses and ring light. The ring light ensures optimal lighting for difficult surfaces during Brinell tests. This makes **changing tools unnecessary.** These benefits of the DuraVision 30 make very **quick and easy quality control** possible.

Why EMCO-TEST?

"We had clearly defined requirements for both the hardness testing machines as well as the manufacturers. We provide premium quality. In order to guarantee this, we in return expect premium quality from our suppliers and the machines we use for all of our quality control. We are confident that EMCO-TEST products meet our quality requirements. The software is self-explanatory, it doesn´t require a lot of training, and it is very user friendly. Another important criterion for us was the service network and the competence of the employees. They have exerted themselves not only before the sale, they have been available to us at any time after the sale as well."

Bernhard Eicher, Head of the Palfinger CCF Analysis Center

This application example has been prepared in cooperation with our customer "Palfinger AG". We would like to express our gratitude again for the fantastic cooperation and the trust shown to our company.