PlowmanCraven

FLOOR FLATNESS SURVEYS

High-precision surveys for floor flatness and
surface regularity of industrial warehouses

www.plowmancraven.co.uk

Consult. Trust. Innovate.

When it **has** to be **flat**

With the rise of robotic technology in the logistics industry, a much higher level of performance is required from warehouse floors and infrastructure.

For businesses across the world that make use of **industrial and logistic warehouses** – including manufacturers, retailers and distribution brands – it's vital that building floors meet **flatness and surface regularity** specifications. Our **high-precision surveys** deliver:

☑ Identification of floor irregularities

☑ Independent surface reports

☑ Cost savings and efficiencies

Why **Plowman Craven?**

☑ More than 50 years' survey experience

☑ We are an independent surveying consultant

☑ Large dedicated Industrial Flooring team

☑ UK and European based workforce

☑ Proprietary 'Bonneville' statistical analyst software

☑ Industry leading technical experts

☑ At the forefront of advanced surveying technology

☑ The application of laser scanning technology allows the full floor to be assessed, improving decision making and reducing risk

☑ Measurement specialist of super flat floors for the robotics industry

☑ Our surveying methods are compliant with the required international standards

☑ Concrete Society Technical Report 34 (4th Edition)

☑ European EN 15620

☑ German DIN 18202

☑ American ASTM 1155

☑ ATTMA Technical Standard

What's **Measured?**

Floor Height Irregularities

Our detailed reports accurately map deviations and **identify the compliance of your warehouse floor** to ensure the safe and efficient running of materials handling equipment (MHE). These validated reports cover both **Free Movement (FM)** and **Defined Movement (DM)** floors and measure:
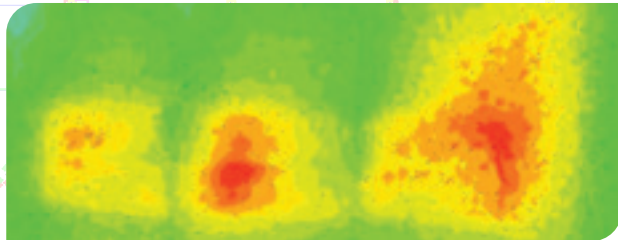
☑ Flatness

☑ Levelness

☑ Curvature

Surface Characteristics

The impact of floor characteristics on performance is now even more important given the increase of **robotic operations**. Whether for a new build or understanding how **characteristics change** over time, it's essential to test and understand the following:

☑ Surface Roughness

☑ Surface Gloss

Applying **Surveying Expertise**

Our teams of expert surveyors use industrial-grade terrestrial laser scanners to precisely control, 3D laser scan and accurately map the floor, ensuring absolute accuracy of data.
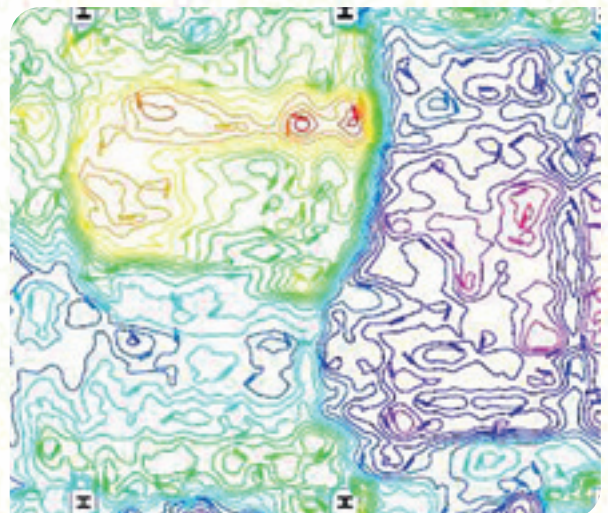
This is supplemented by robust workflows developed specifically for measuring industrial warehouses, with all **data independently checked** against on-site readings from high-precision total stations and levelling equipment.

We can operate **'pour-by-pour'** or as each floor is finished. The **entire floor** is laser scanned rather than the standard practice of testing only a sample area.

Data **Reporting**

Our reports provide **complete, wall-to-wall coverage,** providing for better decision making and reducing risk. The 'Bonneville' data analytics software, developed by Plowman Craven, allows for a bespoke library of reporting from error plans, elevation/contour maps, grinding reports and property analysis.
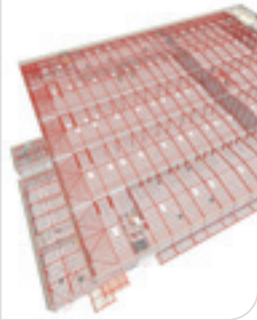
Plowman Craven

Additional Services

The technology used and data collected also supports a number of added value services:

As-Built BIM Models
Created from scans of the whole building

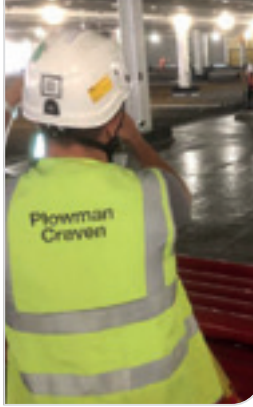**Construction Verification**
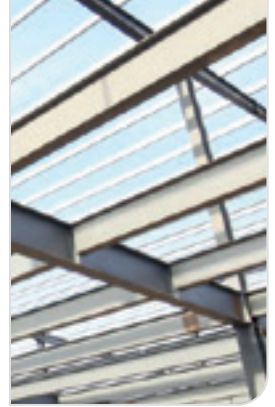Does the as-built fit the design?

Set Out Grid
Set out according to design

Wet Pour Scanning

Beam Deflection Analysis

About Plowman Craven

As one of the largest surveying companies in the UK, Plowman Craven has spent more than 50 years providing a **range of measurement and surveying services** to the property, rail and infrastructure markets. We work in both the private and public sector, pioneering the **latest technology** and playing a key role on some of the most prestigious **development and infrastructure projects** in the UK and overseas.

If you'd like to know more about our floor flatness measurement services please get in touch:

Peter Folwell, Director
Tel: +44 (0)1582 765566 +44 (0)7697 501074
pfolwell@plowmancraven.co.uk

www.plowmancraven.co.uk

Consult. Trust. Innovate.