



Prop II Meter / F-Speed Reader >



Our Family of Digital Floor Flatness Measuring Instruments...

DIN Meter (DIN 18202) >

Wheel Base Profileograph (TR34 / Fmin / EN 15620) >



< DIN Profileograph (DIN 15185)



Global Flooring Consultants...

Proving the World is **Flat...**

www.cogriusa.com



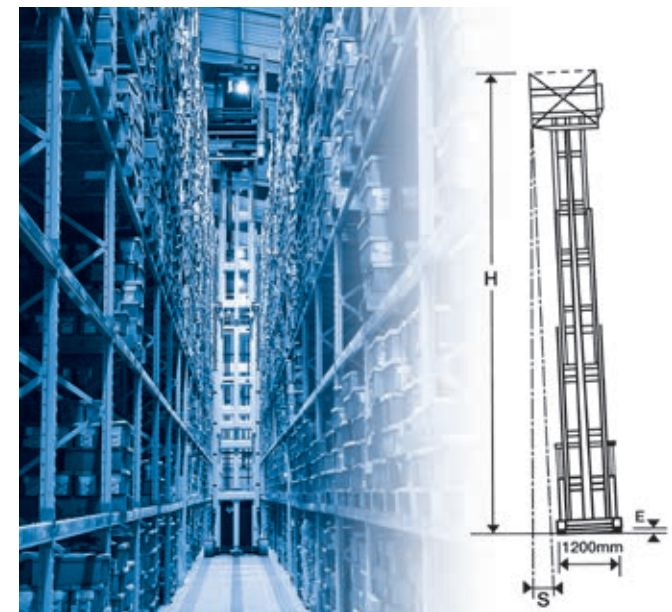


CoGri USA Inc

CoGri USA Inc are an independent testing organisation regarded as the world leaders in the measurement and control of floor profiles. Today we operate worldwide out of our offices in the UK, USA, Mainland Europe, Middle East, Asia, Australasia and Africa.

In 1977 the first CoGri Floor Profilegraph was built. Designed to check floors in narrow aisle warehouses, the self propelled Profilegraph was the first practical instrument for large scale floor surveys and was the key tool in the development of modern Superflat floor technology.

Today, CoGri USA Inc use the latest in Digital measuring equipment, designed and built in house, to check both defined and free movement floors to either Concrete Society's Technical Report 34 (TR34), DIN, the European Norm (EN) or the American F number systems.



A high standard of floor flatness is an essential requirement for the safe and efficient operation of a narrow aisle forklift truck. The static lean table (right) indicates how the potential for truck lean is increased by the lifting height.

Static Lean Table

The table insert shows the static lean of a fork lift truck assuming the mast is rigid. Due to the engineering tolerances in the mast the dynamic force when the truck is moving this could increase the static lean by upto 3 times the figure shown. The centre to centre distance between the load wheels of the fork lift truck is: 1.2 metres.

H - Height of racking in metres	(E) - Difference in elevation between the left and right hand fork truck wheels mm.											
	3	4	5	6	7	8	9	10	11	12		
6	15	20	25	30	35	40	45	50	55	60		
6.5	16	22	27	33	38	43	49	54	60	65		
7	18	23	29	35	41	47	53	58	64	70		
7.5	19	25	31	38	44	50	56	63	69	75		
8	20	27	33	40	47	53	60	67	73	80		
8.5	21	28	35	43	50	57	64	71	78	85		
9	23	30	38	45	53	60	68	75	83	90		
9.5	24	32	40	48	55	63	71	79	87	95		
10	25	33	42	50	58	67	75	83	92	100		
10.5	26	35	44	53	61	70	79	88	96	105		
11	28	37	46	55	64	73	83	92	101	110		
11.5	29	38	48	58	67	77	86	96	105	115		
12	30	40	50	60	70	80	90	100	110	120		
12.5	31	42	52	63	73	83	94	104	115	125		
13	33	43	54	65	76	87	98	108	119	130		

Why Flatness is important

Correct floor flatness is essential for the following reasons:

- Operations are more efficient if lift trucks operate at maximum speed
- Poor surface regularity will cause excessive vibration on a lift truck and increase down time and maintenance
- Health and Safety and driver fatigue
- Reduced damage to stock
- Gives a control on the general quality of a floor when constructed

Undoubtedly the most important category of industry where flatness is essential is within aisles of high density warehouses where defined path, very narrow aisles trucks operate.

The static lean table below indicates how the potential for truck lean is increased by the lifting height.

Measurement Service

CoGri USA Inc provide quality controlled measurement of floor surface regularity using the latest in digital floor measuring devices.

Free movement floors, where materials handling equipment operates in random, non-defined directions, have an infinite number of travel paths. This type of floor is usually measured in accordance with one of the following flatness specifications:

- Concrete Society's TR34 Free Movement Specification Using the Prop II meter to check flatness (also see PROPERTY E – Levelness)
- DIN 18202, using the DIN meter
- ASTM F-number system, using the F-Speed Reader
- EN 15620



Prop II Meter ▲
F-Speed Reader

DIN Meter ▲

For defined traffic floors, those floors where forklift trucks are fixed in the path they run such as very narrow aisle, we check the floors suitability with the Profilegraph. As with free movement floors there are a number of differing specifications. The decision on which specification to choose is usually geographical:

- UK and areas of UK influence - The Concrete Society's Technical Report 34
- USA and areas of USA influence – The ACI F min number system
- Germany and some other European countries – DIN 15185
- EN 15620



The Digital Profilegraph can be used to measure all of the above specifications by interchanging the rear measuring assemblies.

▼ TR34 3rd Edition Profilegraph



DIN Profilegraph ▲

▲ Wheel Base Profilegraph (TR34 / Fmin / EN 15620)

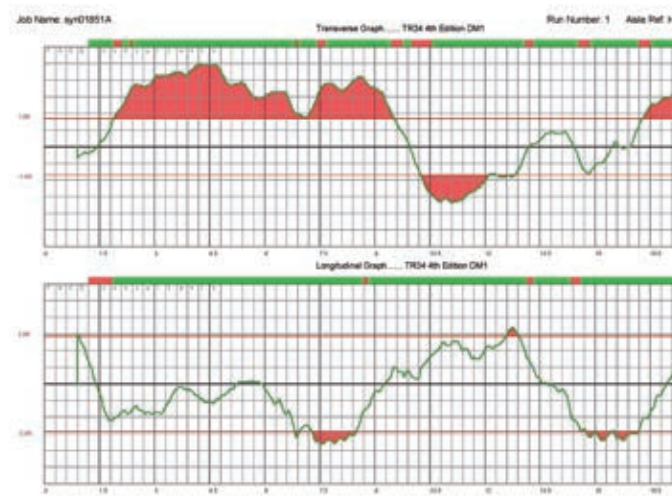


The self-propelled Digital Profilegraph travels along the narrow aisle, with its sensor wheels set to follow in the defined wheel paths of the forklift truck. The survey data then produces differential graphs relating to the longitudinal and transverse profiles of the floor.

The Profilegraph lies at the heart of modern Superflat floor technology. Using the Profilegraph, we can measure continuous profiles of the forklift truck's defined wheel paths and highlight any areas that do not comply with the flatness specification. Corrective grinding can then be supervised to ensure the smooth operation of the forklift truck.

Consultation & Detail Design

We advise on the detail design assessing build ability, and reduction in long term maintenance. We will advise on the most appropriate flatness specification and give guidance on the best, most economic construction methods.



Property E (Levelness)

The Concrete Society's TR34 Free Movement specification checks a floors levelness (Property E) characteristics on a 3.0m x 3.0m grid. The difference in elevation between two adjacent points on the grid is measured using an engineer's precise level, a parallel plate micrometer and an invar staff.



On Site Contractor Assistance

Working with the contractor we can advise on how to adjust current construction techniques to improve floor flatness. Providing continuous on site quality control and measurement with highly specialised instruments. We can also oversee any corrections that may be required.

Other Services

- Due diligence and dilapidation surveys
- Bespoke flatness specifications and testing
- Structural investigations / testing and analysis
- Designers and manufacturers of flatness testing equipment
- Abrasion resistance testing
- Slip resistance testing