CoGRI GROUP

FACE CONSULTANTS LTD
Global Flooring Consultants

As Worldwide leaders in floor flatness compliance testing and on-site monitoring, Face Consultants Limited offer very rapid, accurate and independent results for Defined Movement (narrow aisle) and Free Movement (open area) surveys to British (TR34), German (DIN), American (Fmin) and other standards. They will also ensure that floor flatness is correctly specified, will ensure that the flooring contractor has the required expertise to meet the required specification and will check the finished floor for specification compliance.

CONCRETE GRINDING LTD
Global Flooring Solutions

Concrete Grinding Limited are specialists in the enhancement of floor flatness, particularly in narrow aisles and have developed the Laser Grinder®, the Worlds most advanced laser-guided grinding system. The Laser Grinder® enables aisles on new and existing floors to be upgraded to the flatness standards required to operate VNA forklift trucks safely and at their optimum efficiency. Used in new and operational warehouses it is clean, quick and very effective, while offering little disruption to the ongoing warehouse activities.

CG FLOORING SYSTEMS LTD
Specialists in Industrial Flooring

CG Flooring Systems Limited are specialists in the repair and upgrading of warehouse and industrial floor slabs.
Their practical experience enables them to give sound professional advice and offer cost effective repair options to flooring problems, such as joint failure and surface delamination/failure. Where floor surface renewal is recommended, they can offer an environmentally friendly, hard-wearing, pump-applied cementitious floor topping – Fastfloor-IT, which enables a floor to be returned to use very quickly; as well as a range of basic or specialist epoxy coatings and toppings.

Global Flooring **Solutions...**

Making the World a **Flatter** Place...

www.**concrete-grinding**.com

CONCRETE GRINDING LTD
Global Flooring Solutions

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www.cogrigroup.com

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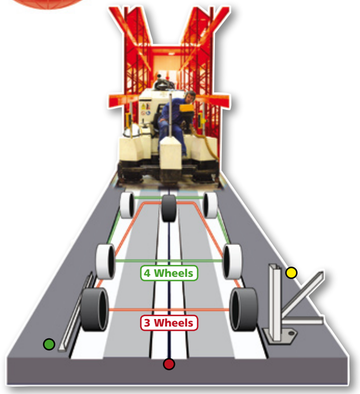
Specialists in **Superflat** Floor Grinding
speed > precision > quality

CoGRI GROUP



Wheel Track Grinding ▲

- If existing guide rails are installed, our ground paths can be cut as close as 15mm away from the rail face. A low profile guide rail system can work better with the guide rails installed within our ground paths.
- Wire guidance lines can be installed within the ground path to ensure complete synergy between truck, floor and guidance system. Grinding the centre wheel track with an existing wire guidance line in place usually requires the wire to be re-installed.
- Grinding can be performed with or without the racking system in place, in a fully stocked operational warehouse or on a construction site.

These points also refer to **Whole Aisle Width Grinding**: see illustration far right.

As a minimum requirement, any remedial grinding for a 3-wheeled VNA forklift truck must upgrade the floor flatness to the specified tolerances in the front (left & right) load wheel tracks. Grinding all 3 wheel paths ensures that each wheel of the VNA truck follows a similar floor profile, allowing faster operations and high-level pallet movements to be carried out safely.

Remedial grinding for a 4-wheeled VNA forklift truck should ensure that all 4 wheels are accommodated within the ground paths.

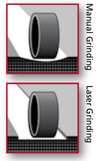
The Laser Grinder® is easily adapted to grind 2 or 3 wheel paths to any required flatness tolerance. The left and right tracks are performed simultaneously, in one pass along an aisle, and the centre track can be added by making a second pass.

The ground paths are typically 300mm or 380mm wide, depending upon the width of the truck wheels. Wider ground paths can be achieved by making a further pass along the aisle. The base of each ground path is flat across its width and with sufficient clearance to each side of the truck wheel.

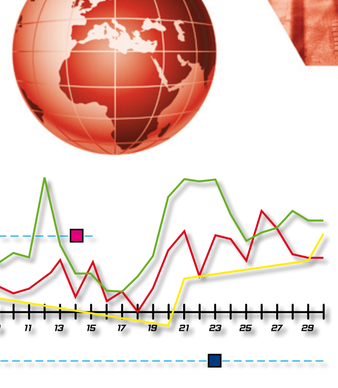
Laser Grinding® or Manual Grinding?

The hard polypropylene tyres of a narrow aisle forklift truck require a **FLAT** surface beneath the full width of the wheel.

Trolley mounted manual grinding machines can create a **concave** or **'dished'** profile across the wheel path. This does not allow the tyre to sit correctly and can **induce sideward thrust**. This can cause a wire guided truck to swerve off line, or impose excessive lateral forces on low profile guide rails.



The **Laser Grinder's®** diamond blades have been designed to create a **flat path** across the full width of each wheel path, or better still across the full width of a narrow aisle.



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 (below) indicates how the potential for truck lean is increased by the lifting height.

The Laser Grinder® Process

The Laser Grinder® has been specifically developed to operate in a working warehouse environment, causing minimal disruption to a client's ongoing operation. The wet, vacuum-enclosed grinding process is free from airborne dust and is clean enough to work alongside fully stocked racks - even in food and pharmaceutical storage facilities.

Our detailed optical survey, along the existing defined wheel paths in each aisle, enables a new floor profile to be designed for the Laser Grinder to produce.

We do not grind flat from one end of an aisle to the other, as this could result in excessively deep grinding, and steep ramps at aisle ends.

Our laser guided grinding process uses sympathetic gradients to improve the floor flatness whilst working well within the constraints of the required specification. We grind the minimum depth possible to provide the maximum amount of benefit for the end user.

It can sometimes be possible to grind only isolated "problem areas" in an aisle; to provide a floor that only just complies with the required flatness specification. We don't generally condone this approach to upgrading floor flatness as we strive to provide floors that totally satisfy the end user - not just complying with the flatness specification.

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.

(E) - Difference in elevation between the left and right hand fork truck wheels mm.

H - Height of racking in metres	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	77	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

Whole Aisle Width Grinding

Our unique Laser Grinder® process allows us to grind across the full usable width of a narrow aisle. By making 3 or more passes along an aisle, we are able to provide a single ground path that satisfies the required flatness specification in all potential wheel paths.

This extremely popular alternative to the 'wheel track' grinding method allows a client total flexibility of choice in the use of their existing and future materials handling equipment.

Flatness Specification

The Laser Grinder® process satisfies all defined movement flatness specifications:-

- Concrete Society's TR34 4.3
- Din 15 185
- TR34 App C. / Fmin

The Finishing Touch

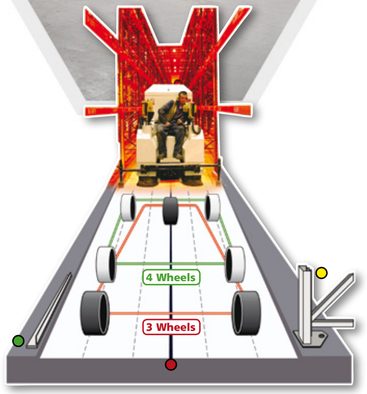
To further enhance the quality of the operational floor surface, the aisles can finally be sealed or coloured, with a wide variety of different coating options.

Profileograph Surveys

Working in conjunction with Face Consultants Ltd, we can provide state of the art Digital Profileograph surveys of proposed or existing narrow aisle floors. The survey data is displayed in a colour coded graphical format, giving a clear indication of the standard of floor flatness. e.g. before or after grinding.

Surveys can be carried out to check compliance with all current, worldwide floor flatness specifications:

- Concrete Society's TR34 4.3
- Din 15 185
- TR34 AppC. / Fmin



Whole Aisle Width Grinding ▲

Other Services

Working in conjunction with other members of the CoGri Group of Companies we are able to provide a full range of services for all your industrial / warehouse flooring requirements:

- **Bespoke tolerance grinding**
- **Floor joint repairs**
- **Re-surfacing of worn out floors**
- **Epoxy screeds and coating systems**
- **General floor surface grinding**

< Floor joint repairs

CoGri GROUP

Defined WHEEL TRACK GRINDING for VNA forklift trucks

FLATNESS IS IMPORTANT > speed > safety > efficiency > reduced maintenance...

Upgrading VNA warehouse floors the world over...