BOMAG
FAYAT GROUP

Directed Vibration.

Cut costs with Total Compaction Quality Management.

TECHNOLOGY

BEST FOR COMPACTION

Low-vibration compaction:
Ideal for bridge deck work

Optimised compaction – higher quality with lower costs.

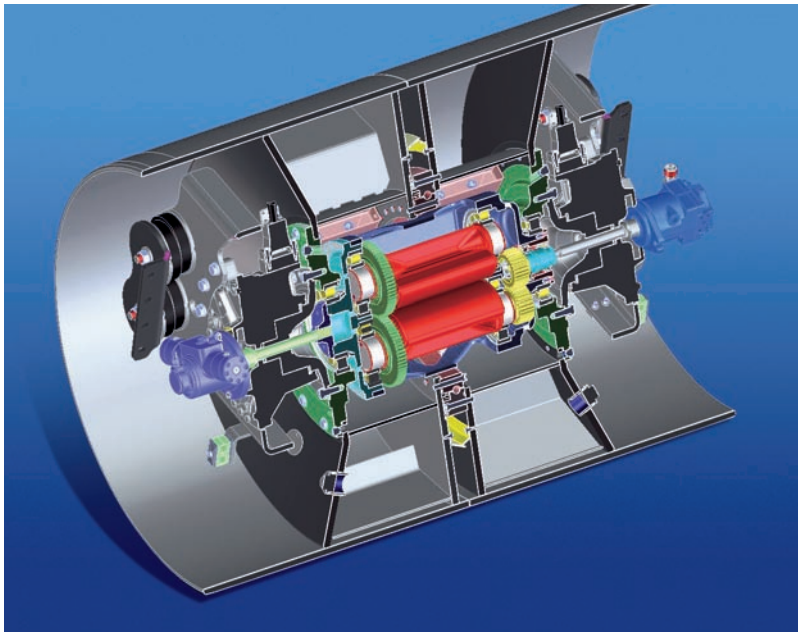
Today, asphalt road specifications place high importance on load bearing, surface tolerances and texture. At the same time cost pressures continue to increase on contractors. To produce high quality with low costs you need versatile rollers that can be used to their full capacity and where compaction performance is continuously monitored and optimised.
For many years BOMAG has lead the way with vibration systems that automatically control, optimise and document compaction. The core of these systems is based on directed vibration.

Directed vibration – Increasing the utility of your roller.

The BOMAG directed vibrator system consists of two counter-rotating eccentric weights.

The centrifugal forces generated by these weights are magnified if they are focused in the same direction (directed vibration) and are neutralised when acting in the opposite direction.

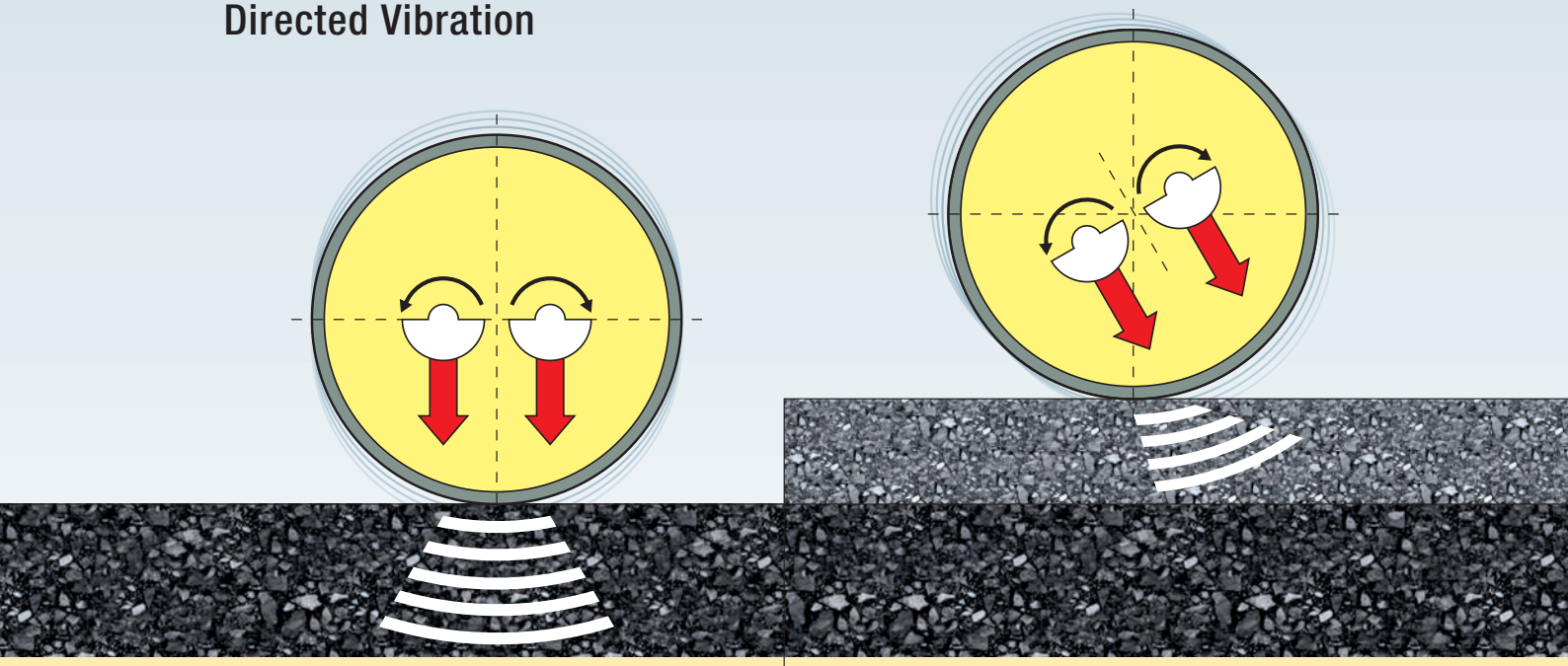
By re-orienting the entire exciter system including the eccentric weights the effective direction of vibration can be altered. The system can be turned progressively towards the travel direction and is automatically re-adjusted.



Drum cross section showing the exciter system

If the compaction force is directed vertically an enhanced depth effect will be created using maximum compaction output. In contrast reduced depth penetration is produced with horizontally directed vibration. This creates low-vibration surface compaction which is particularly suited to thin layers or sensitive materials. This mode is used on applications such as bridge-decks, where low vibration impact on the surrounding area is important. The progressive adjustment of vibration direction between the two extremes (horizontal and vertical) offers an enormous range of compaction performance and depth effect to suit every application type.

Directed Vibration



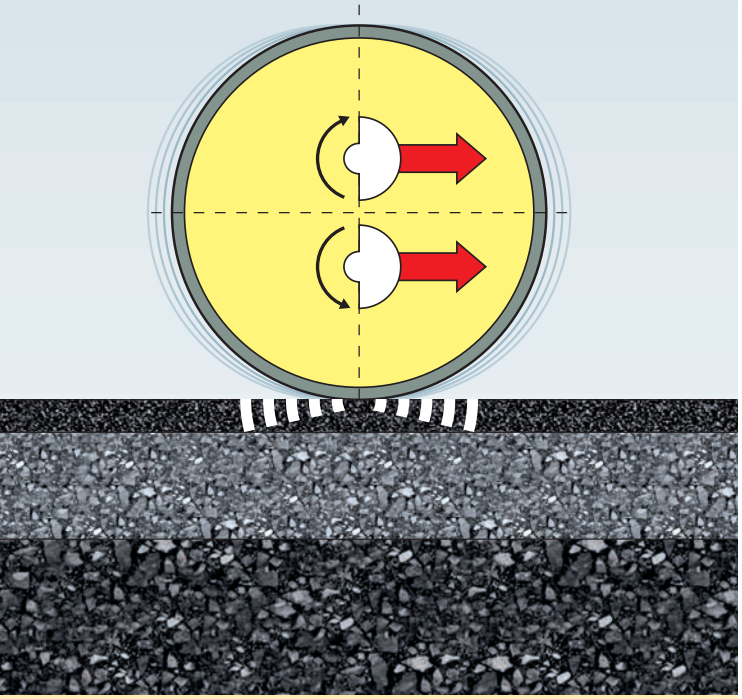
Enhanced depth effect compaction with vertically directed vibration. Ideal for base and binder layers.

Compaction is precisely and progressively adjusted with ASPHALT MANAGER giving a wide range of compaction performance and depth effect.

More from ASPHALT MANAGER: The roller can be used for testing and documenting the subgrade

BOMAG ASPHALT MANAGER –
Your guarantee of compaction quality.

The BOMAG ASPHALT MANAGER system monitors compaction progress and adjusts compaction performance many times a second in automatic mode. This eliminates drum bounce and operator error. The soil stiffness and compaction progress, surface temperature, travel speed, exciter frequency and selected amplitude are continuously displayed to the roller operator and can be printed out on-site using the data recorder.



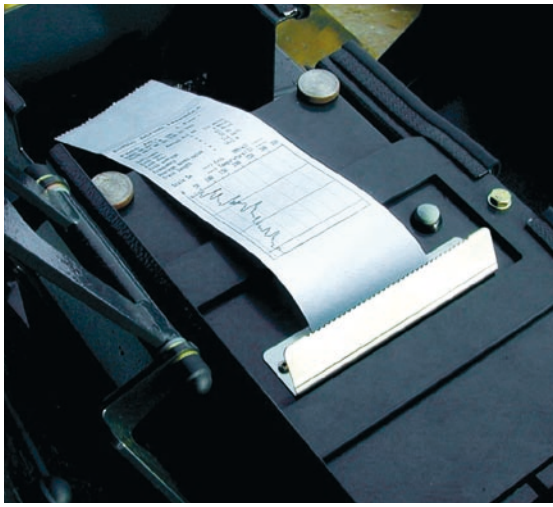
Low-vibration surface compaction with horizontally directed vibration. Ideal for inner-city use, close to structures and on bridge work.

ASPHALT MANAGER requires no special user training; the control panel is self-explanatory. The driver uses automatic mode for 90 % of all applications. Maximum amplitude can be limited to three levels for different layer thicknesses. Compaction force is then automatically adjusted to the stiffness of the material being compacted. Of course, the roller driver can also select manual instead of automatic mode, e.g. the horizontally directed vibration shown above.

Directed vibration with ASPHALT MANAGER offers both surface compaction control and continuous documentation and position location in combination with GPS and BCM (BOMAG Compaction Manager).

BOP (BOMAG Operational Panel) continually shows compaction progress

BCM (BOMAG Compaction Manager) for surface compaction control with GPS (optional)

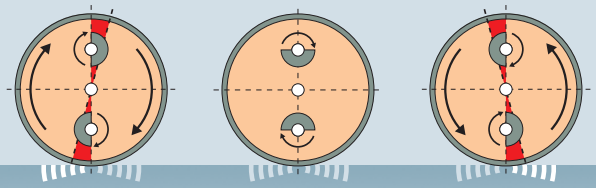


A data recorder documents compaction parameters (optional)

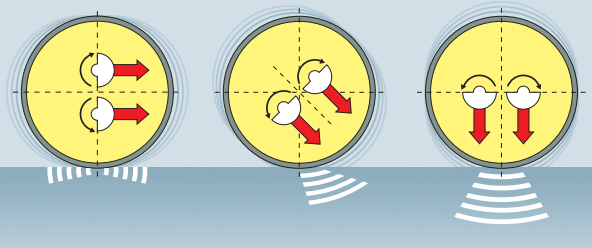
Vibration or oscillation?

Five questions that have helped users cut costs:

1. What is the difference between vibration and oscillation?



Oscillation is reciprocating vibration where the drum is in contact with the ground at all times. It has minimal depth effect and is similar to static compaction. Oscillation cannot automatically reduce compaction where there is a risk of overcompaction.



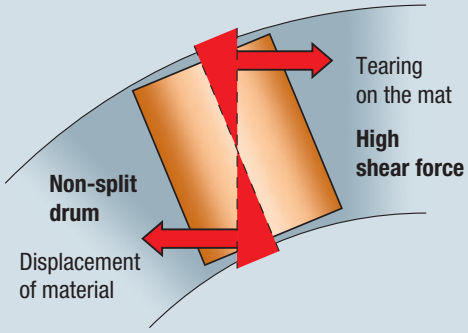
Vibration is generated using a sensitive, infinitely adjustable directed vibrator in the front drum which produces from low-vibration surface compaction up to deep-acting high-performance compaction. Directed vibration automatically limits compaction where there is a risk of overcompaction.

2. Is oscillation safer to use in sensitive areas? – NO!!

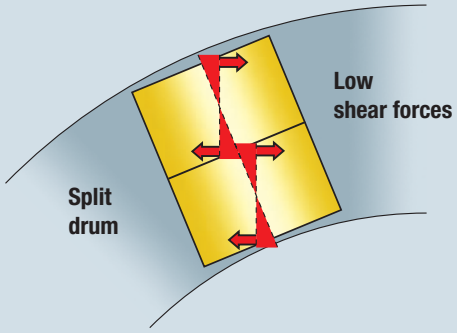
For example on bridge work:

Vibration with ASPHALT MANAGER can be adjusted sensitively and progressively with low-vibration, and easily works with low forces in the same way as oscillation.

3. Which technology will give me the best surface finish?

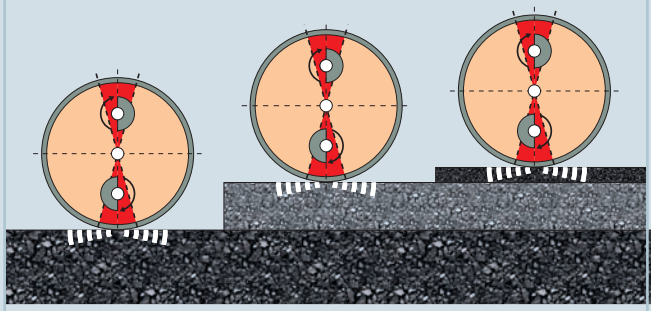


With its rotary vibration, **oscillation** produces a "sandpaper effect", possibly giving "polished" surface finishes. Oscillation is only effective with non-split drum rollers; too high shearing forces at the drum edges when rolling on bends can lead to asphalt damage.

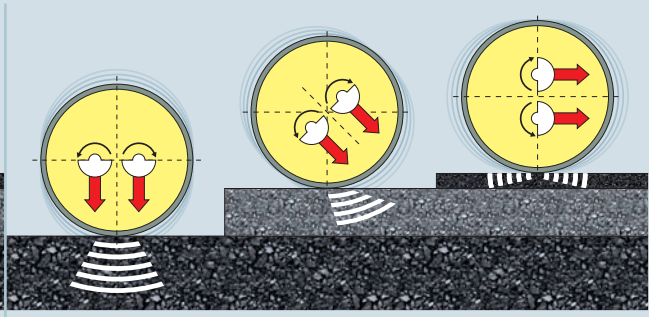


Vibration does not create the "sandpaper effect"; it is available on split drum rollers and gives superior compaction and asphalt surface finish on bends.

4. What if I need to compact thin surface layers as well as binder and base layers?



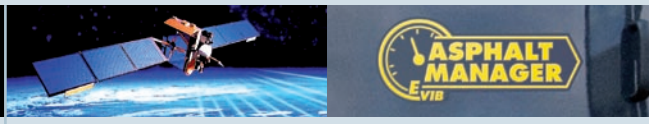
Oscillation produces a shallow depth effect. The force is non-adjustable and cannot be matched to the subsurface.



On the other hand, **vibration** can be progressively adjusted with ASPHALT MANAGER either automatically or manually, and the system will display compaction progress to the roller driver.

5. How can I safeguard and document the quality of my work?

Systems with **oscillation** do not feature surface compaction control.



Vibration with ASPHALT MANAGER offers the option of surface control and continuous documentation – plus positioning if combined with GPS.

BOMAG
FAYAT GROUP

www.bomag.com

Head Office / Hauptsitz:
BOMAG
Hellerwald
56154 Boppard
GERMANY
Tel. +49 6742 100-0
Fax +49 6742 3090
germany@bomag.com

BOMAG Maschinen-
handelsgesellschaft m.b.H.
Porschestraße 9
1230 Wien
AUSTRIA
Tel. +43 1 69040-0
Fax +43 1 69040-20
austria@bomag.com

BOMAG (CANADA), INC.
3455 Semenyk Court
Mississauga
Ontario L5C 4P9
CANADA
Tel. +1 905.361.9961
Fax +1 905.361.9962
canada@bomag.com

BOMAG (CHINA)
Compaction Machinery Co., Ltd.
2808 West Huancheng Road
Shanghai Comprehensive
Industrial Zone (Fengxian)
Shanghai 201401
CHINA
Tel. +86 21 33655566
Fax +86 21 33655505
china@bomag.com

BOMAG France S.A.S.
2, avenue du Général de Gaulle
91170 Viry-Châtillon
FRANCE
Tel. +33 1 69 57 86 00
Fax +33 1 69 96 26 60
france@bomag.com

BOMAG (GREAT BRITAIN), LTD.
Sheldon Way
Larkfield, Aylesford
Kent ME20 6SE
GREAT BRITAIN
Tel. +44 1622 716611
Fax +44 1622 718385
gb@bomag.com

BOMAG Kereskedelmi Kft.
PC Alkotmány u. 16
2051 Biatorbágy
HUNGARY
Tel. +36 23 530 368
Fax +36 23 530 369
hungary@bomag.com

BOMAG ITALIA Srl.
Z.I. – Via Mella 6
25015 Desenzano del Garda (Bs)
ITALIA
Tel. +39 030 9127263
Fax +39 030 9127278
italy@bomag.com

BOMAG Japan Co. Ltd.
Oval Court Ohsaki
Mark West Bldg. 8th floor
2-17-1
Higashi Gotanda
Shinagawa-ku
Tokyo
JAPAN
141-0022
Tel. +81 3 5449 7560
Fax +81 3 5449 0160
japan@bomag.com

BOMAG Polska Sp. z o.o.
Ul. Szyszkowa 52
02-285 Warszawa
POLAND
Tel. +48 22 482 04 00
Fax +48 22 482 04 01
poland@bomag.com

BOMAG GmbH
300 Beach Road
The Concourse, #38-03
Singapore 199555
SINGAPORE
Tel. +65 6 294 1277
Fax +65 6 294 1377
singapore@bomag.com

BOMAG Americas, Inc.
2000 Kentville Road
Kewanee
Illinois 61443
U.S.A.
Tel. +1 309 8533571
Fax +1 309 8520350
usa@bomag.com

Part of the FAYAT GROUP

FAYAT

03/09 PRE 109 017