

Technical  
design

22–26 tonnes GVW  
206–261 kW  
(280–355 hp)

Mercedes-Benz  
heavy-duty  
3-axle  
construction  
site vehicles



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Mercedes-Benz offers an unsurpassed variety of commercial vehicle models and possible variations. This ensures that every vehicle can be selected and adapted for the job it will be doing.

The more precisely the transport task of a vehicle is defined, the more harmonious a combination of engine, transmission, axles, cab and body – to name but a few things – can be put together. In other words, the more exactly can the truck be suited to its task. In today's struggle towards rationalisation, this job of putting together the best possible combination of components is becoming increasingly important.

And so is the variety of the Mercedes-Benz range of construction site vehicles, since this variety ensures that you are able to get the vehicle which will be most efficient in doing the job you want it to.



Transporting heavy loads – gravel, sand, excavated material – is hard work, which Mercedes-Benz construction site vehicles perform masterly, day in, day out, year after year.



For many construction bosses, the high payload, robust engineering and excellent all-round economy of the three-axle construction site vehicles are reasons why they buy Mercedes-Benz.



Mercedes-Benz offers a wide range to cope with all sorts of transport tasks in the building trade – the right vehicle for every job.



Mercedes-Benz chassis are suitable for any kind of body. Reputable body manufacturers fit the chassis with, for instance, tipping troughs for transporting gravel, sand, etc.

## Difficult terrain and tight schedules – the 206 kW engine from Mercedes-Benz.

Mercedes-Benz construction-site vehicles perform their work in exemplary fashion: just as economically off-road as on the roads.

These days, construction-site vehicles operate largely on sealed roads. But in addition to this, they must carry out particularly heavy off-road work. This means that they must fulfil the most diverse requirements under extreme conditions. And this necessitates the use of engines with power and torque curves characterized by above-average performance and below-average consumption.

The OM 422 offers both. It gives high performance, is flexible and economical, which makes it just right for construction-site applications – whenever high tractive power is required for moving off from a stationary position, in combination with frequent variations in speed on the way to and from the site, on sealed and unsealed roads and tracks.

Large-displacement naturally-aspirated engines are the ideal power unit for construction-site vehicles. The advantages of the Mercedes-Benz 280 hp engines are convincing:

- a wide effective speed range,
- high maximum torque,
- very good moving-off characteristics,
- low specific consumption,
- a long service life because of low engine speeds and low mechanical and thermal stress,
- very powerful exhaust brakes because of the large engine displacement.

The time-tested engine design has led to a particularly high level of operational safety. The cylinder heads are secured with stretch-shaft bolts, which do not require re-tightening. The cylinder cooling is optimally carried out: Spray-jet oil supply to the pistons, centrifugally-cast cylinder liners and excellent engine timing are further characteristics of this time-tested system.

Thanks to large investments in research and development, Mercedes-Benz has the most experience in the manufacture of diesel engines. You can therefore rest assured that these engines will stand up to the heaviest treatment that can be encountered on a construction site.



The curve clearly shows that maximum torque is available at low engine speeds. Moving off from a stationary position is made easier, and even steep inclines can be mastered with the engine speeds in the low-consumption range.





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## The axles – designed for long-term heavy applications.

Every component of a Mercedes-Benz commercial vehicle must fulfil stringent demands regarding quality and service life – unconditionally.

It goes without saying that this fundamental principle also applies to the axles of Mercedes-Benz vehicles: front and rear axles for the hardest possible long-term use. Driven axles with a wide variety of transmission ratios for light, medium and heavy applications. The non-driven front axles are of the rigid knuckle-yoke type. Steering knuckles, axle beams and bearings are all of a size to cope with the extreme conditions under which these vehicles operate. The thrust bearings on the steering knuckles are protected by sealing rings, so that they cannot be penetrated by dirt. Despite their particularly robust design, which gives them a long service life, the weight of the axles is very favourable, since the amount of weight saved – without compromising their great reserves of strength – can be utilized to increase the payloads of the three-axle construction-site vehicles. These vehicles are driven by standard planetary gear hub reduction axles, which are also fitted as the front axle of all-wheel-drive trucks. The through-drive axles are fitted with an inter-axle differential lock. Differential locks for all driven axles are available as an optional extra.

### The suspension.

The rear axles of the three-axle construction-site vehicles are of the bogie type and are located by six links. The upper two links are situated on a particularly sturdy frame cross-member. Stabilizers are available on request. The bogie-axle suspension ensures that all wheel pairs maintain continuous contact with the road surface, so that power is safely transmitted to the ground.

