



emil **Kaltenbach**

products, applications & references



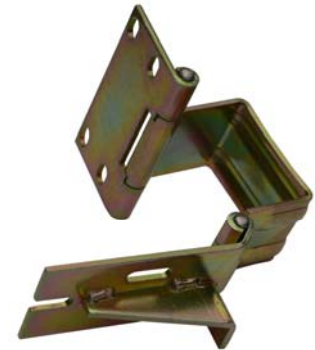
Overview 1

- Customized profil hinge
- In galvanized raw steel
- For automotive doors and luggage hatches
- Customers: MAN/Neoplan (Starliner)
- Carries ca. 15 kg



Overview 2

- This is an example of a former motor hatch hinge
- Overview 3 shows the new solution
- That hinge is still integrated in bus door applications
- But the tendency shows that SEPTOMAX is on the raise
- One main reasons is the better opening angel of SEPTOMAX
- SEPTOMAX is also lighter and much more compact



Overview 3

- Profil 7-link hinge (SEPTOMAX series)
- In yellow galvanized raw steel
- For automotive motor hatches
- Assembled inside the bus body (hidden situation)
- Customers: EVOBUS/Daimler-Chrysler
- Carries ca. 40 to 50 kg



Overview 4

- Customized SEPTOMAX version
- In galvanized raw steel
- For automotive/racing industry
- Especially for storage compartment
- Customers: Bischoff & Scheck
- Carries ca. 10 kg



Overview 5

- Profil SEPTOMAX solution
- In galvanized raw steel
- For heavy doors and hatches (armed vehicles)
- Customers: Berger
- Carries ca. 150 to 200 kg



- Indoor profil hinge
- With yellow galvanization
- Customers: Mercedes Benz
- Carries ca. 80 to 90 kg.



Overview 6

- Rolled indoor hinge
- Stainless steel version
- For the railway industry
- Customers: Bombardier
- Carries ca. 20 to 30 kg



- Indoor profil hinge
- With zinc galvanization
- Customers: Multicar
- Carries ca. 80 to 100 kg.



Overview 7

- Rolled hinge solution
- In usual raw steel and stainless steel
- For the railway industry; espec. hatches
- Customers: Alstom, Bombardier
- Carries ca. 15 kg max.



- Rolled hinge
- With zinc galvanization
- For commercial vehicles and beyond
- Customers: Ewers, Esselmann
- Carries different weights depending on the material

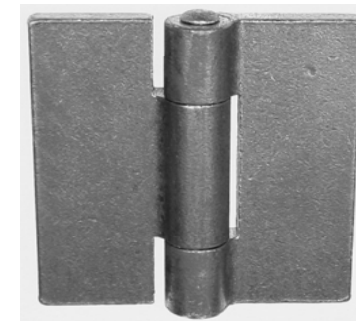


Overview 8

- Rolled customized hinge
- In galvanized steel with 3mm thickness
- With lubricant pin, nipples and washers
- For trucks, lorries, truck-boxes etc.
- Widely useable in different industries
- Customers: Ketterer, Alf, Böckmann
- Carries different weights depending on it's dimensions



- "Classic" profil hinge
- Offered in different pin, bush and rivet versions
- Low maintenance required
- With grease pin and nipple in raw and stainless steel
- Already used in nearly all automotive industries



Our hinge categories

- Manufacturing: Profil or rolled versions.
- Material: Raw steel or stainless steel with different steel types as required.
- Surface treatment: Galvanization (zinc, yellow etc.), Powder coatings etc.
- Thickness: Profil hinge up to 10 mm, rolled versions up to 4 mm.
- Additional: Different pin, bush, washer, rivet and hook versions combinable.
- Type: Customized or standard hinges.
- Development: Own (CAD-)Construction or ideas from customers.

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