

EMHART. Pipe clips world-wide.

Individual design of pipe clips for the whole automotive industry.



**Leading in the field of pipe clip development –
intelligent solutions for complex requirements.**

**Emhart[®]
Teknologies**

A  **BLACK & DECKER** COMPANY

EMHART. Pipe clips world-wide.

Development, manufacturing, service in all continents.

We speak your language, we understand your culture.



Emhart Technologies has a long experience with the most different requirement profiles and can look back on a large number of innovative designs developed for all OEMs and pipe manufacturers of repute.

We have got an innovative, global team. It is their highest goal to develop fastening technology further and combine it with excellent service.

There are no geographical limits. Our development and production locations in North and South America, Europe, Japan and China cooperate in a world-wide network. Thus they have access to all new projects and state-of-the-art developments.

This way it is ensured that every clip can be produced and delivered in all continents independent of its location of development. This enables us to guarantee shortest ways and fastest delivery times, which lead to an optimum of cost-effectiveness.



6-fold ergonomic pipe clip for weld studs

Individual design for every application.

Pipe clips of a great benefit

In the automotive industry, we cannot imagine exact and proper routing of brake and fuel lines in modern cars without plastic clips made by Emhart Teknologies anymore. They provide the perfect properties and functions to guarantee an outstanding price-performance ratio.

Design, state-of-the-art injection molding technology, automated manufacturing of clips and optimized part geometries are the decisive factors leading to these advantages.

Quality and advantages

We use exclusively high-quality materials made by industrial standard materials manufacturers of repute which have been certified by the automotive industry. This way high quality becomes standard.

The pipe clips made by Emhart Teknologies meet all national and international standards of the automotive industry and are tailor-made to suit the requirement profiles of our customers.

Noise and vibration reduction, simple assembly, high pull-off values, outstanding performance at most different temperatures, conductor systems, parts for all fastening positions and mounting areas, 2-component, with or without protection caps and nuts – we can meet all your most different requirement constellations.

A functional design will be developed for every clip. Optimally adjusted to meet individual application requirements. A modern and highly efficient manufacturing process enables us to produce economically for and in all regions of the world. And in addition, we continuously develop new fastening concepts together with our customers for the automobiles of tomorrow and the days after tomorrow.

Generally, high-quality POM and PA materials are used but for the reduction of vibration we also use TPE or 2-component materials. It goes without saying that for special applications we also have a large number of further basic materials at our disposal.

Additional customer specifications, as for example higher lateral or vertical retention forces, will also be individually adjusted to the specific application.

We provide solutions for all your unresolved fastening problems. Be it for the underbody, the dash cowl or the engine room, we will develop a specially designed pipe clip according to your requirement specification. You are looking for a clip for a standard application? Then have a look at our extensive product catalog.



Ergonomic retainer for studs – simplest manual assembly AND highest pull-off forces



Exact routing even in narrow areas

Complex pipe systems – tailor-made routing.

EMHART. Pipe clips world-wide.

Optimized assembly as required.

Manual assembly

Simple and fast assembly at a force significantly less than 50 N – we have achieved this by using multi-finger locking systems with a special design. For applications with holes, we can provide clips with flexible ribs or geometric locking systems for different sheet thicknesses or when larger tolerances are required.



Manual assembly

Impact assembly

Clips attach to weld studs using polygonal or square retainers; optionally available with push-on nuts pre-joined by injection-molding for simplified assembly.



Impact assembly

Screw-on assembly

For pipe-clips, in part with pre-assembled screw-on nuts, the clips are turned on or screwed on the weld studs. Separate plastic nuts with preformed threads are also optionally available.

Owing to the use of glass-fiber reinforced polyamide, this nut with a preformed thread can guarantee a product that combines the best mechanical properties with an optimal safety of assembly, while the excellent properties of the pipe attachment, e.g. vibration reduction, remain unaffected.



Screw-on assembly

*Pipe clip
with honeycomb design*



EMHART. Pipe clips world-wide.

For every requirement the suitable solution.



Pipe clips without vibration decoupling

- Pipe retainer and locking finger of the clip can be adjusted to the pipe with such a precision that high lateral retention forces of up to 20 N can be reached.
- Thermal stability of up to +150 °C – higher heat resistance is possible depending on the selection of material.
- Low part weight due to optimized wall thickness ratios.
- If a thermal stability requirement of up to +120 °C becomes necessary, our proven and tested standard materials, as for example POM and PA, are used.
- Cost-optimized version for standard application

Pipe clips with vibration decoupling

1-component: honeycomb design

- Thermal stability from –40 °C to +110 °C; with alternative materials a thermal stability of up to +165 °C is possible.
- Lower costs due to one-step injection-molding process
- Simplest handling
- Separation of materials is not necessary, as only one component is used.
- Low weight

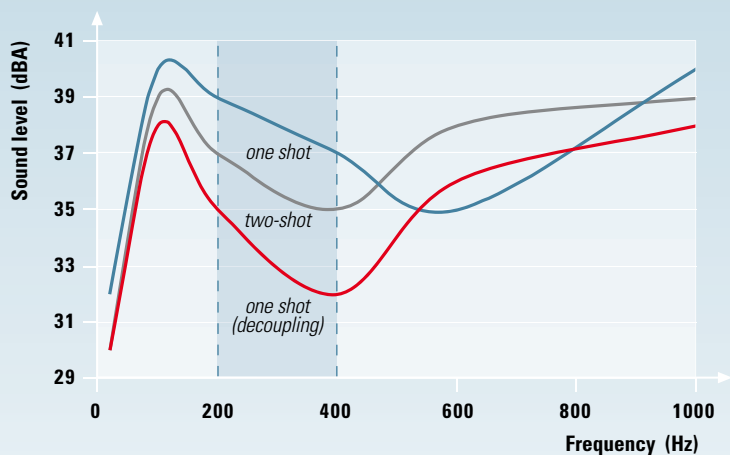
2-component

- Two materials in one manufacturing process-materials are processes to suit the requirement profile.
- Highest lateral retention safety
- Lower costs due to elimination of completion process

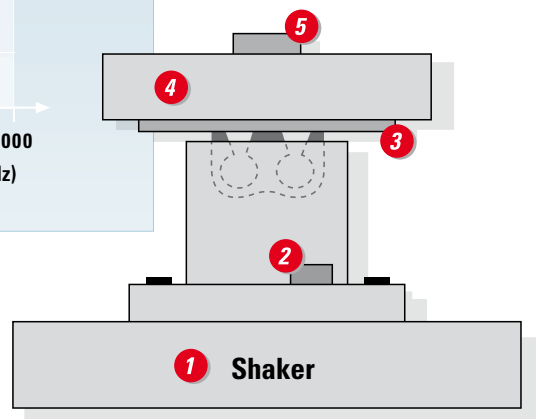
Completion part

- Combination of different inlays is possible – flexible adjustment of pipe retainers.
- Highest lateral retention safety
- Low costs for smaller lot sizes and modular use of different inlays in one hard shell

Vibration decoupling compared



Noise measurement with a shaker for proven quality; vibration decoupling can be measured.



- 1 Shaker
- 2 Monitor gauge
- 3 Metal plate
- 4 Additional weight
- 5 Acceleration gauge

Technical specifications

Pipe clips

Pipe diameters:	up to 30 mm (also with cover cap or locking function)
Number of pipes:	1 to 10 (depending on requirement profile and assembly situation, a higher number of pipes is possible)
Types of assembly:	manual assembly, impact assembly, screw-on assembly

Forces (N)

Push-on forces pipes:	30 – 120 N
Pull-off forces pipes:	40 – 250 N
Lateral retention forces pipes:	10 – 80 N
Assembly forces clips:	30 – 500 N
Pull-off forces clips:	150 – 800 N

All values are approximate values.

USA

Emhart Teknologies
49201 Gratiot Ave
Chesterfield, MI 48051
Tel. +1 586 949 0440
Fax +1 586 949 8460

Germany

Emhart Teknologies
Tucker GmbH
P. O. Box 11 13 29
D-35387 Giessen
Max-Eyth-Strasse 1
D-35394 Giessen
Tel. +49 641 405-0
Fax +49 641 405-300

Japan

Emhart Teknologies
NPR Division
3rd Floor Park Building
No. 6 Kioicho 3 Choume
Chiyoda-ku / Tokyo 102
Tel. +81 33 36572-91
Fax +81 33 36572-98

Brazil

Emhart Teknologies
Refal Division
Rua Ricardo Cavatton, 226
05038-110 - Sao Paulo - SP
Tel. +55 11 3871 6474
Fax +55 11 3871 3505

China

Emhart Teknologies
488 Jia Lou Road
Jiading District
Shanghai
Tel. +86 21 59548626
Fax +86 21 59548775

Czech Republic

Emhart Teknologies
Tucker S.R.O.
Ujezd p. Troskami 65
51263 Rovensko p. Troskami
Tel. +42 433 5465-11
Fax +42 433 5465-66

France

Emhart Teknologies
Tucker GmbH
ZA des Petits Carreaux
2 bis avenue des Coquelicots
94385 Bonneuil sur Marne
Tel. +33 1 567124-24
Fax +33 1 567124-34

Italy

Emhart Teknologies
Tucker GmbH
Agenzia Italia
Via Buenos Aires, 27
10134 Torino
Tel. +39 11 3173964/65
Fax +39 11 3174830

Spain

Emhart Teknologies
Tucker GmbH
Oficina España
Ctra. M-300 Km 29,700
28802 Alcalá de Henares (Madrid)
Tel. +34 91 8770380
Fax +34 91 8896340

Sweden

Emhart Teknologies
Nordic Division
Box 203 / Skomaskigatan 2
70144 Örebro
Tel. +46 19 205800
Fax +46 19 262309

UK

Emhart Teknologies
Tucker GmbH
UK Office
Wallsall Road / Perry Barr
Birmingham B42 1BP
Tel. +44 121 33125-97
Fax +44 121 33125-48

Mexico

Emhart Teknologies
Bosque de Cidros acceso
Radiatas #42,
Col. Bosque de Las Lomas
05120 Mexico, D.F.
Tel. +52 55 5326 7132
Fax +52 55 5326 7132

South Korea

Emhart Teknologies
Rm. 609 Seorin Bldg.
45-15 Yeoido-Dong
Yeongdeungpo-Ku
150-891 Seoul
Tel. +82 2783 9226 7
Fax +82 2783 9228 9