BRAKE FLUIDS

RELIANCE. TRUST. PERFORMANCE.
As one of the leading aftermarket suppliers of products in the areas of wear parts, brake hydraulics, fluids and chemicals as well as accessories, we consistently focus on technological advances, long-term innovation and the highest quality.

The brake system is a complex system in which many elements have to work together smoothly so that they function safely even in extreme situations.

The brake fluid is an important part of this system because it transfers the pedal force to the brake system through hydraulic pressure. To perform this function, the brake fluid must conform to clearly defined automaker requirements and its composition must be perfectly coordinated to the characteristics of various braking systems. Brake fluids from Hella Pagid do not just meet these conditions perfectly, they far exceed them.

The brake fluid range from Hella Pagid is sensibly supplemented by brake cleaner and mounting paste. Both of these quality products are tried-and-tested, easy to use, and ideal for optimizing the braking and road safety of a vehicle.
Brake fluid plays a key role in the reliable and constant transmission of braking force and performance. In order for it to fulfill its function, the effectiveness of the brake fluid must never be impeded under any circumstances.

Regardless of the category, each brake fluid must have very specific features to ensure proper functioning in any situation. Key criteria for this include the dry boiling point, wet boiling point and viscosity. To ensure that brake fluids meet the safety-related requirements with respect to this criteria, specific minimum standards have been specified in accordance with the DOT (“United States Department of Transportation”) classification.

All of our brake fluids far exceed the legal values and provide maximum performance and safety, even in extreme situations.
## HELLA PAGID BRAKE FLUIDS

### PALLET PROGRAM

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Size</th>
<th>Carton Quantity</th>
<th>Number of Layers</th>
<th>Boxes Layer</th>
<th>Boxes / Pallet</th>
<th>Bottles / Layer</th>
<th>Bottles / Pallet</th>
<th>Pallets / 20 ft container</th>
<th>Bottles / 20 ft container</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>355360132</td>
<td>250 ml</td>
<td>24</td>
<td>6</td>
<td>15</td>
<td>90</td>
<td>360</td>
<td>2,160</td>
<td>10</td>
<td>21,600</td>
</tr>
<tr>
<td>355360142</td>
<td>500 ml</td>
<td>24</td>
<td>5</td>
<td>10</td>
<td>50</td>
<td>240</td>
<td>1,200</td>
<td>10</td>
<td>12,000</td>
</tr>
<tr>
<td>355360072</td>
<td>1 L</td>
<td>10</td>
<td>4</td>
<td>17</td>
<td>68</td>
<td>170</td>
<td>680</td>
<td>10</td>
<td>6,800</td>
</tr>
</tbody>
</table>

**The origin of modern brake fluids. Primarily used in brake systems without complex safety components.**

| DOT 4       |      |                 |                  |             |                |                 |                 |                          |                          |
|            |      |                 |                  |             |                |                 |                 |                          |                          |

**The common standard for most vehicles today.**

| DOT 4 LV    |      |                 |                  |             |                |                 |                 |                          |                          |
|            |      |                 |                  |             |                |                 |                 |                          |                          |

**Specially formulated to work with Electronic Stability Program (ESP) systems and to operate effectively over a wide temperature range. Suitable for all ESP and other conventional brake systems using Glycol Ether based Brake Fluids.**

| DOT 5.1     |      |                 |                  |             |                |                 |                 |                          |                          |
| DOT 5.1     |      |                 |                  |             |                |                 |                 |                          |                          |

**Similar boiling point to DOT 4 racing fluids, a glycol-base, and a color scheme that ranges from light amber to translucent. Basically a DOT 4 brake fluid, based on chemical makeup, that can meet DOT 5 regulations. Can technically mix with both DOT 3 and DOT 4 fluids.**

* Minimum purchase = 20 container/10 pallets
### HELLA PAGID BRAKE FLUIDS TEST RESULTS

<table>
<thead>
<tr>
<th>DOT 3</th>
<th>DOT 4</th>
<th>DOT 4 LV</th>
<th>DOT 5.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry boiling point [°C]</td>
<td>Wet boiling point [°C]</td>
<td>Viscosity at -40°C [cSt (mm²/s)]</td>
<td>Viscosity at 100°C [cSt (mm²/s)]</td>
</tr>
<tr>
<td>229</td>
<td>149</td>
<td>1.200</td>
<td>1,95</td>
</tr>
<tr>
<td>&gt; 205</td>
<td>&gt; 140</td>
<td>&lt; 1.500</td>
<td>&gt; 1.5</td>
</tr>
<tr>
<td>268</td>
<td>163</td>
<td>1.315</td>
<td>2,34</td>
</tr>
<tr>
<td>&gt; 230</td>
<td>&gt; 155</td>
<td>&lt; 1.800</td>
<td>&gt; 1.5</td>
</tr>
<tr>
<td>267</td>
<td>172</td>
<td>675</td>
<td>2,1</td>
</tr>
<tr>
<td>&gt; 230</td>
<td>&gt; 155</td>
<td>&lt; 1.800</td>
<td>&gt; 1.5</td>
</tr>
<tr>
<td>269</td>
<td>187</td>
<td>810</td>
<td>2,16</td>
</tr>
<tr>
<td>&gt; 260</td>
<td>&gt; 180</td>
<td>&lt; 900</td>
<td>&gt; 1.5</td>
</tr>
</tbody>
</table>

- **Test results**
- **Requirement (in accordance with DOT)**
This is the boiling point of new brake fluid without water content. When braking, kinetic energy is converted into heat. The brake fluid absorbs part of this heat and, to keep the heating under control in each phase and to prevent the formation of gas bubbles that can cause a brake failure, the boiling point must reach a certain level.

In addition to the heat, the brake fluid also absorbs humidity. This results in an increase in the water content and a reduction in the boiling point in aged brake fluid or brake fluid that has been used over a long period of time. This wet boiling point is generally specified for brake fluids with a water content of around 3.5% (relative to the total amount).

Viscosity is a measure of how easily a fluid flows. The greater the viscosity, the thicker the fluid (flows poorly); the lower the viscosity, the thinner the fluid (flows more easily). When temperatures rise, the viscosity of most fluids decreases. The viscosity is particularly relevant for brake fluids intended for modern vehicles with ESP and ABS (DOT 4 LV and DOT 5.1) because these vehicles require a fluid with a relatively high viscosity, even when temperatures are low.
Hella Pagid recommends observing and following the information provided by the vehicle manufacturer. The following replacement intervals serve as a guideline value for ensuring optimal brake performance and safety:

- DOT 3: every 12 months
- DOT 4, DOT 4 LV, and DOT 5.1: every 24 months

In addition to this, the brake system – and the brake hoses in particular – should be checked for leaks regularly during service inspections.

Hella Pagid generally recommends using the brake fluid defined by the automaker and to avoid mixing brake fluids with different DOT specifications.
RESIDUE-FREE CLEANING. AVOIDANCE OF MALFUNCTIONS.
BRAKE SYSTEM CARE AND MAINTENANCE

BRAKE CLEANER

The brake cleaner from Hella Pagid attracts brake dust and is a reliable means of removing oil, grease, dirt, and brake fluid — and it leaves no residue. Therefore, this tried-and-tested cleaning agent is suited for almost general use for all brake, coupling and drive parts, as well as starters, alternators, carburetors, fuel pumps, and engine parts.

Product characteristics
➔ 360-degree spray head
➔ Short drying time
➔ Leaves no residue
➔ Binds brake dust
➔ Great cleaning effect
➔ Cleans without causing discoloration or leaving streaks
➔ Protects against immediate rusting
➔ Does not contain chlorinated or halogenated hydrocarbons.
➔ Acetone-free

Application
Spray soiled parts intensively and allow solvent to drain or evaporate. If necessary, wipe off with a towel until dry. Repeat if parts are heavily soiled.

Hella Pagid brake cleaner is available in 500 ml spray cans.
355370001 | 500 ml | Case of 12 pieces
In order to ensure safe functioning in the long term, the brake system must undergo regular maintenance. During maintenance, all relevant mechanical parts should be greased with a temperature-resistant, non-metallic, permanent lubricant. When doing so, always ensure that the lubricant is suitable. To eliminate all risks and prevent possible malfunctions in the highly sensitive safety systems (e.g. ABS and ESP) while driving, we recommend that you use Hella Pagid mounting paste.

**Product characteristics**
- Minimizes braking noise
- Temperature-resistant
- Non-metallic
- Simple application
- Transparent
- Acid-free

**Application**
- On brake and coupling systems
- As a battery terminal grease

When fitting brake linings, it is recommended that mounting paste be applied to the guide surfaces of the T-heads of the brake linings and the guides on the brake caliper in order to minimize brake noise.

Hella Pagid mounting paste is available in a 75 ml tube and a 5.5 ml sachet.

- 355370011 | 75 ml | Case of 36 pieces
- 355370031 | 5.5 ml | Case of 400 pieces