### EXPLOSION PROTECTION FUNDAMENTALS

Labelling of explosion-protected industrial trucks according to ATEX

<table>
<thead>
<tr>
<th>ITEM 1</th>
<th>ITEM 2</th>
<th>ITEM 3</th>
<th>ITEM 4</th>
<th>ITEM 5/6</th>
<th>ITEM 7</th>
<th>ITEM 8</th>
<th>ITEM 9</th>
<th>ITEM 10</th>
<th>ITEM 11</th>
<th>ITEM 12</th>
<th>ITEM 13</th>
<th>ITEM 14</th>
<th>ITEM 15</th>
<th>ITEM 16</th>
<th>ITEM 17</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARK OF CONFORMITY</td>
<td>CE</td>
<td>ISO 12100</td>
<td>ATEX</td>
<td>GROUP 2</td>
<td>CLASS</td>
<td>CATEGORY / ZONE</td>
<td>EXPLOSION PROTECTION TYPE</td>
<td>EXPLOSION PROTECTION LEVEL (EPL)</td>
<td>Trough</td>
<td>SYMBOL</td>
<td>TYPE OF SHUTDOWN</td>
<td>EQUIPMENT PROTECTION LEVEL (EPL)</td>
<td>THREE Wochen</td>
<td>EPL</td>
<td>SYMBOL</td>
</tr>
<tr>
<td>standard body</td>
<td>D</td>
<td>Ex</td>
<td>IIB</td>
<td>G5</td>
<td>E</td>
<td>T4</td>
<td>Flameproof</td>
<td>Db</td>
<td>mb</td>
<td>Fail-safe</td>
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<td>Number of the Notified Body</td>
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<td>ATEX</td>
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<tr>
<td>Manufacturer</td>
<td>Linde Material Handling</td>
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#### Category of Flammable Atmospheres

<table>
<thead>
<tr>
<th>Atmosphere</th>
<th>Type of Flammable Gas</th>
<th>Flammability</th>
<th>Ignition temperature</th>
<th>Explosion limits</th>
<th>Example substances</th>
</tr>
</thead>
</table>

- **Category 1 (1D):** Dusts most frequent and long-term. Flame limit > 50% LEL.
- **Category 2 (2D):** Dusts frequent. Flame limit > 25% LEL.
- **Category 3 (3D):** Dusts rare, brief. Flame limit ≤ 25% LEL.

#### Flammable Gas Atmospheres

- **Category 1 (1G):** Flammable gas. Flame limit > 50% LEL.
- **Category 2 (2G):** Flammable gas. Flame limit > 25% LEL.
- **Category 3 (3G):** Flammable gas. Flame limit ≤ 25% LEL.

#### Potential Explosive Dust Atmospheres

- **Category 1 (1D):** Dusts frequent. Flame limit > 50% LEL.
- **Category 2 (2D):** Dusts frequent. Flame limit > 25% LEL.
- **Category 3 (3D):** Dusts rare, brief. Flame limit ≤ 25% LEL.

#### Ignition Protection Types

- **Flameproof (ib):** Requires high safety standards and is suitable for use in potentially explosive atmospheres.
- **Intrinsic Safety (ic):** Suitable for use in atmospheres with a high risk of explosion.
- **Ex 'e':** Suitable for use in atmospheres with a medium risk of explosion.
- **Ex 'd':** Suitable for use in atmospheres with a low risk of explosion.

#### Equipment Protection Levels (EPL)

- **T4:** Flameproof enclosure with safety shutdown and additional ignition protection measures.
- **T3:** Flameproof enclosure with safety shutdown.
- **T2:** Flameproof enclosure.

#### Equipment Marking

- **Ce:** Conforms to the requirements of the applicable CE marking.
- **ATEX:** Conforms to the requirements of the ATEX directive.

#### Certification

- Equipment must be certified by a notified body before it can be used in potentially explosive atmospheres.
- Certification is issued based on the category of the atmosphere and the type of ignition protection used.

For more information, please refer to the EN 13858:2014 standard and the ATEX directive.