Information for first and second responders
Propulsion energy identification
ISO/TC 22/SC 36/WG 7

CTIF Commission for Extrication and New Technology
Tom Van Esbroeck - Chairman
Kurt Vollmacher - Project Leader
Brussels 08/06/2014 CEN/TC 441 Meeting
Different Parts of NWIP proposed by CTIF to ISO

This ISO work item is part of 3 proposals introduced by the CTIF Commission for Extrication and New Technology. All of them with the same objective:

to provide "crucial Information for first and second responders"

Part 4 is made together with TMC as their recommended practice.

- **Part 2**: Rescue sheet for busses, coaches and heavy commercial vehicles
- **Part 3**: Standardized Emergency Response Guides
- **Part 4**: Propulsion energy identification

**First responders**: fire fighters, police, medical personal,…
**Second responders**: towing and maintenance personal…
CTIF is the international association of fire and rescue services, representing firefighters in 37 different countries all over the world.
Scope of the proposed deliverable

This international standard defines the labels and related colours for indication of the fuel or propulsion energy of a road vehicle, especially for the case of new vehicle technology and/or power sources, including hybrid drive lines.

In a road vehicle accident, a quick and correct identification of the fuel or propulsion energy by the rescue team promotes the correct action with respect to the vehicle technology concerned, and it supports the rescue team extricating the occupants as fast and as safe as possible.
Scope of the proposed deliverable.

This standard is applicable to passenger cars, buses, coaches, light and heavy commercial vehicles according to ISO 3833.

The location of labels on the vehicle, on the rescue sheet, or in the emergency response guide is outside the scope of this standard.

The colours for the propulsion identification have strong relationships to the colours used in the Rescue Sheet and ERG (ISO 17840 parts 1, 2 and 3).
Layout and contents of the propulsion identification label

Label shape and appearance/zones:

<table>
<thead>
<tr>
<th>Zone</th>
<th>Information category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centre</td>
<td>Main information, main power source</td>
</tr>
<tr>
<td>Upper</td>
<td>Secondary information, secondary power source</td>
</tr>
<tr>
<td>Lower</td>
<td>Specific information</td>
</tr>
<tr>
<td>Left</td>
<td>Special warnings</td>
</tr>
<tr>
<td>Right</td>
<td>State of aggregation</td>
</tr>
</tbody>
</table>
Colour definitions

<table>
<thead>
<tr>
<th>Colour</th>
<th>RGB code</th>
<th>Fuel / Propulsion energy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grey</td>
<td>127,127,127</td>
<td>Liquid group 1 (Diesel, Bio Diesel, …)</td>
</tr>
<tr>
<td>Red</td>
<td>161,37,3</td>
<td>Liquid group 2 (Petrol/Gasoline, Ethanol, …)</td>
</tr>
<tr>
<td>Blue</td>
<td>0,176,240</td>
<td>Hydrogen group (FCEV, …)</td>
</tr>
<tr>
<td>Green</td>
<td>0,176,80</td>
<td>Gas group (CNG, LNG, LPG, DME, …)</td>
</tr>
</tbody>
</table>

Coulours needed for indification of electric vehicles and hybrid technology

<table>
<thead>
<tr>
<th>Colour</th>
<th>RGB code</th>
<th>Fuel / Propulsion energy</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>255,255,255</td>
<td>Air group (hybrid air, …)</td>
</tr>
<tr>
<td>Brown</td>
<td>153,102.51</td>
<td>Oil group (hybrid oil, …)</td>
</tr>
<tr>
<td>Orange</td>
<td>255,165.0</td>
<td>High voltage (Class B voltage)</td>
</tr>
</tbody>
</table>
# Centre zone pictograms

<table>
<thead>
<tr>
<th>Main power source</th>
<th>Pictogram Text or image</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petrol</td>
<td>🏎️</td>
<td>ISO 7000-0245 Fuel</td>
</tr>
<tr>
<td>Gasoline</td>
<td>🏎️</td>
<td>ISO 7000-0245 Fuel</td>
</tr>
<tr>
<td>(including Ethanol mix)</td>
<td></td>
<td>Fuel</td>
</tr>
<tr>
<td>Diesel</td>
<td>🏎️</td>
<td>ISO 7000-1541 Diesel fuel</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>🏎️</td>
<td>-</td>
</tr>
<tr>
<td>Liquified Petroleum Gas</td>
<td>🏎️</td>
<td>Element of ISO 7000-2489</td>
</tr>
<tr>
<td>Compressed Natural Gas</td>
<td>🏎️</td>
<td>-</td>
</tr>
<tr>
<td>Liquified Natural Gas</td>
<td>🏎️</td>
<td>-</td>
</tr>
<tr>
<td>Di-Methyl Ether (Gas)</td>
<td>🏎️</td>
<td>-</td>
</tr>
<tr>
<td>Electric High Voltage (Class B)</td>
<td>⚡</td>
<td>IEC 60417-5036 Element of ISO 7010-W012</td>
</tr>
</tbody>
</table>
### Upper zone pictograms

<table>
<thead>
<tr>
<th>Secondary power source</th>
<th>Pictogram Text or image</th>
<th>Note</th>
</tr>
</thead>
</table>
| Electric High Voltage (Class B)        | ![Lightning bolt]       | IEC 60417-5038  
Element of ISO 7010-W012                                                  |
| High pressure air accumulator          | ![Air accumulator]      | Pressure of 15 bar or above  
Elements of ISO 7000-1413                                                  |

<table>
<thead>
<tr>
<th>Secondary power source</th>
<th>Pictogram Text or image</th>
<th>Note</th>
</tr>
</thead>
</table>
| High pressure hydraulic oil accumulator | ![Hydraulic oil]        | Pressure of 15 bar or above  
Elements of ISO 7000-1413                                                  |
Lower zone pictograms

Lower zone may contain words or characters by the respective country of region to make the label more understandable. (a few examples shown below)

<table>
<thead>
<tr>
<th>Specific information</th>
<th>Text</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle using combined power sources</td>
<td>HYBRID</td>
<td></td>
</tr>
<tr>
<td>Natural Gas Vehicle</td>
<td>NGV</td>
<td></td>
</tr>
<tr>
<td>Fuel Cell Electric Vehicle</td>
<td>FCEV</td>
<td></td>
</tr>
<tr>
<td>Electric Vehicle</td>
<td>EV</td>
<td></td>
</tr>
<tr>
<td>Common name for liquefied petroleum gas</td>
<td>AUTOGAS</td>
<td></td>
</tr>
</tbody>
</table>
## Left zone pictograms

<table>
<thead>
<tr>
<th>Special warnings</th>
<th>Pictogram Text or image</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas, heavier than air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gas, lighter than air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gas, combination of both</td>
<td></td>
<td>E.g. LNG</td>
</tr>
</tbody>
</table>
# Right zone pictograms

<table>
<thead>
<tr>
<th>State of aggregation</th>
<th>Pictogram Text or image</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid</td>
<td>![Water Drop]</td>
<td>Element of ISO 7000-1413</td>
</tr>
<tr>
<td>Compressed</td>
<td>![Compressed Container]</td>
<td>Elements of ISO 7000-1413</td>
</tr>
<tr>
<td>Cryogenic</td>
<td>![Cryogenic Symbol]</td>
<td>ISO 7000-0027</td>
</tr>
</tbody>
</table>
Examples

Vehicle on CNG

Vehicle on Di-Methyl Ether

Vehicle on LNG

Vehicle on LPG
<table>
<thead>
<tr>
<th>Vehicle on Diesel</th>
<th>Vehicle on Petrol/Gasoline</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Diesel Icon" /></td>
<td><img src="image2" alt="Gasoline Icon" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diesel</th>
<th>Gasoline</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3" alt="Petrol/Gasoline Icon" /></td>
<td><img src="image2" alt="Gasoline Icon" /></td>
</tr>
</tbody>
</table>
Examples

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="H2 FCEV" /></td>
<td><img src="image2.png" alt="HYBRID" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hybrid Electric Vehicle on Diesel</th>
<th>Electric Vehicle</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3.png" alt="HYBRID" /></td>
<td><img src="image4.png" alt="EV" /></td>
</tr>
</tbody>
</table>
Examples

<table>
<thead>
<tr>
<th>Hybrid Air Vehicle on Diesel</th>
<th>Vehicle on Flex fuel E85</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hybrid Oil Vehicle on Diesel</td>
<td></td>
</tr>
</tbody>
</table>
Examples using 2 colours

Hybrid Electric Vehicle on Diesel

Vehicle on Hydrogen Fuel Cell Electric Vehicle

Hybrid Electric Vehicle on Petrol/Gasoline
Examples using 2 colours

Hybrid Air Vehicle on Diesel

Hybrid Oil Vehicle on Diesel
**Resume: Corelation on basic colours between ISO and CEN**

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<td>![Hydrogen pictogram]</td>
<td>—</td>
</tr>
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<td>![LPG pictogram]</td>
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</tr>
<tr>
<td>Compressed Natural Gas</td>
<td>![CNG pictogram]</td>
<td>—</td>
</tr>
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<td>![LNG pictogram]</td>
<td>—</td>
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<td>![DME pictogram]</td>
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<td>ISO 7000-0027</td>
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</table>
Resume: Correlation on pictograms between ISO and CEN

Standard:
IEC 60417 — Graphical Symbols for Use on Equipment

Title:
Household socket outlet, EV and PHEV charging

Function/description:
To indicate the household socket outlet suitable for charging electric vehicles (EV) and plug-in hybrid electric vehicles (PHEV).
Information

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