

# DIN EN 12806:2022-12 (E nglisch)

## LPG equipment and accessories - Automotive liquefied petroleum gas components - Other than containers

---

<b>Contents</b>		<b>Page</b>
European foreword .....		5
Introduction .....		6
<b>1</b>	<b>Scope .....</b>	<b>7</b>
<b>2</b>	<b>Normative references .....</b>	<b>7</b>
<b>3</b>	<b>Terms, definitions and abbreviations .....</b>	<b>8</b>
<b>3.1</b>	<b>Terms and definitions .....</b>	<b>8</b>
<b>3.2</b>	<b>Abbreviations .....</b>	<b>11</b>
<b>4</b>	<b>Technical requirements .....</b>	<b>12</b>
<b>4.1</b>	<b>General .....</b>	<b>12</b>
<b>4.2</b>	<b>General design rules .....</b>	<b>13</b>
<b>4.3</b>	<b>Materials .....</b>	<b>14</b>
<b>4.4</b>	<b>Design temperature .....</b>	<b>14</b>
<b>5</b>	<b>Classification of components .....</b>	<b>14</b>
<b>5.1</b>	<b>General .....</b>	<b>14</b>
<b>5.2</b>	<b>Classification of automatic valves .....</b>	<b>15</b>
<b>6</b>	<b>Construction and workmanship .....</b>	<b>15</b>
<b>7</b>	<b>Tests .....</b>	<b>15</b>
<b>7.1</b>	<b>General .....</b>	<b>15</b>
<b>7.2</b>	<b>Overpressure test .....</b>	<b>17</b>
<b>7.3</b>	<b>External leak tests .....</b>	<b>17</b>
<b>7.4</b>	<b>Seat leak test .....</b>	<b>18</b>
<b>7.5</b>	<b>Operational tests .....</b>	<b>19</b>
<b>7.6</b>	<b>Endurance test .....</b>	<b>22</b>
<b>7.7</b>	<b>Vibration test .....</b>	<b>22</b>
<b>7.8</b>	<b>LPG compatibility test (for rubber materials) .....</b>	<b>24</b>
<b>7.9</b>	<b>Corrosion resistance test .....</b>	<b>25</b>
<b>7.10</b>	<b>Resistance to dry heat test .....</b>	<b>25</b>
<b>7.11</b>	<b>Ozone ageing test .....</b>	<b>26</b>
<b>7.12</b>	<b>Creep test .....</b>	<b>26</b>
<b>7.13</b>	<b>Temperature cycle test .....</b>	<b>26</b>
<b>8</b>	<b>Markings .....</b>	<b>27</b>
<b>Annex A (informative) Classification of automotive LPG components .....</b>		<b>28</b>
<b>Annex B (normative) Requirements for the components fitted in or on the container .....</b>		<b>29</b>
<b>B.1</b>	<b>80 % stop valve .....</b>	<b>29</b>
<b>B.2</b>	<b>Level indicator .....</b>	<b>30</b>
<b>B.3</b>	<b>Float .....</b>	<b>31</b>
<b>B.4</b>	<b>Pressure relief valve .....</b>	<b>32</b>
<b>B.5</b>	<b>Remote-controlled service valve with excess flow valve .....</b>	<b>33</b>
<b>B.6</b>	<b>Excess flow valve .....</b>	<b>34</b>

<b>B.7</b>	<b>Pressure Relief Device (PRD)</b> .....	<b>35</b>
<b>B.8</b>	<b>Manual shut-off container valve</b> .....	<b>37</b>
<b>Annex C (normative) Requirements for the fuel pump</b> .....		<b>38</b>
<b>C.1</b>	<b>Design criteria</b> .....	<b>38</b>
<b>C.2</b>	<b>Specific design rules</b> .....	<b>38</b>
<b>C.3</b>	<b>Test procedures</b> .....	<b>38</b>
<b>Annex D (normative) Requirements for the gas-tight housing</b> .....		<b>40</b>
<b>D.1</b>	<b>Design criteria</b> .....	<b>40</b>
<b>D.2</b>	<b>Specific design rules</b> .....	<b>40</b>
<b>D.3</b>	<b>Applicable tests</b> .....	<b>40</b>
<b>Annex E (normative) Requirements for the power supply bushing</b> .....		<b>41</b>
<b>E.1</b>	<b>Design criteria</b> .....	<b>41</b>
<b>E.2</b>	<b>Specific design rules</b> .....	<b>41</b>
<b>E.3</b>	<b>Applicable tests</b> .....	<b>41</b>
<b>Annex F (normative) Requirements for the non-return valve</b> .....		<b>42</b>
<b>F.1</b>	<b>Design criteria</b> .....	<b>42</b>
<b>F.2</b>	<b>Specific design rules</b> .....	<b>42</b>
<b>F.3</b>	<b>Applicable tests</b> .....	<b>42</b>
<b>Annex G (normative) Requirements for the multi-valve</b> .....		<b>43</b>
<b>G.1</b>	<b>Design criteria</b> .....	<b>43</b>
<b>G.2</b>	<b>Specific design rules</b> .....	<b>43</b>
<b>G.3</b>	<b>Applicable tests</b> .....	<b>43</b>
<b>Annex H (normative) Requirements for the vaporizer/pressure regulator</b> .....		<b>44</b>
<b>H.1</b>	<b>Design criteria</b> .....	<b>44</b>
<b>H.2</b>	<b>Specific design rules</b> .....	<b>44</b>
<b>H.3</b>	<b>Applicable tests</b> .....	<b>44</b>
<b>Annex I (normative) Requirements for the remote-controlled shut-off valve</b> .....		<b>46</b>
<b>I.1</b>	<b>Design criteria</b> .....	<b>46</b>
<b>I.2</b>	<b>Specific design rules</b> .....	<b>46</b>
<b>I.3</b>	<b>Applicable tests</b> .....	<b>46</b>
<b>Annex J (normative) Requirements for LPG injectors and the mixing unit</b> .....		<b>47</b>
<b>J.1</b>	<b>Injector</b> .....	<b>47</b>
<b>J.2</b>	<b>Mixing unit</b> .....	<b>48</b>
<b>Annex K (normative) Requirements for the LPG dosage unit</b> .....		<b>49</b>
<b>K.1</b>	<b>Design criteria</b> .....	<b>49</b>
<b>K.2</b>	<b>Specific design rules</b> .....	<b>49</b>
<b>K.3</b>	<b>Applicable tests</b> .....	<b>49</b>
<b>Annex L (normative) Requirements for the flexible hoses</b> .....		<b>50</b>
<b>L.1</b>	<b>Design criteria</b> .....	<b>50</b>
<b>L.2</b>	<b>Specific design rules</b> .....	<b>50</b>
<b>L.3</b>	<b>Tests</b> .....	<b>51</b>
<b>L.4</b>	<b>Markings</b> .....	<b>57</b>

<b>Annex M (normative) Requirements for the hydrostatic relief valve .....</b>	<b>58</b>
<b>M.1 Design criteria .....</b>	<b>58</b>
<b>M.2 Specific design rules .....</b>	<b>58</b>
<b>M.3 Applicable tests .....</b>	<b>58</b>
<b>Annex N (normative) Requirements for the filter unit .....</b>	<b>59</b>
<b>N.1 Design criteria .....</b>	<b>59</b>
<b>N.2 Specific design rules .....</b>	<b>59</b>
<b>N.3 Applicable tests .....</b>	<b>59</b>
<b>Annex O (normative) Requirements for the pressure and/or temperature sensor .....</b>	<b>61</b>
<b>O.1 Design criteria .....</b>	<b>61</b>
<b>O.2 Specific design rules .....</b>	<b>61</b>
<b>O.3 Applicable tests .....</b>	<b>61</b>
<b>Annex P (normative) Requirements for the service coupling .....</b>	<b>63</b>
<b>P.1 Design criteria .....</b>	<b>63</b>
<b>P.2 Specific design rules .....</b>	<b>63</b>
<b>P.3 Applicable tests procedure .....</b>	<b>63</b>
<b>Annex Q (normative) Requirements for the Electronic Control Unit (ECU) .....</b>	<b>64</b>
<b>Q.1 Design criteria .....</b>	<b>64</b>
<b>Q.2 Specific design rules .....</b>	<b>64</b>
<b>Annex R (normative) Requirements for the fuel rail .....</b>	<b>65</b>
<b>R.1 Design criteria .....</b>	<b>65</b>
<b>R.2 Specific design rules .....</b>	<b>65</b>
<b>R.3 Applicable tests .....</b>	<b>65</b>
<b>Annex S (normative) Requirements for the filling unit .....</b>	<b>67</b>
<b>S.1 Design criteria .....</b>	<b>67</b>
<b>S.2 Specific design rules .....</b>	<b>67</b>
<b>S.3 Applicable tests .....</b>	<b>68</b>
<b>S.4 Main dimensions of different types of vehicle filling units in use in Europe .....</b>	<b>70</b>
<b>Annex T (normative) Gas tube(s) .....</b>	<b>74</b>
<b>T.1 General provisions .....</b>	<b>74</b>
<b>T.2 Gas tubes of seamless type made of either copper or stainless steel or steel with corrosion-resistant coating .....</b>	<b>74</b>
<b>T.3 Gas tube(s) of non-seamless type, gas tube(s) made of materials other than copper, stainless steel, and steel with corrosion-resistant coating, and their couplings .....</b>	<b>74</b>
<b>Annex U (normative) Interconnected LPG systems .....</b>	<b>77</b>
<b>U.1 Specific provisions for components of interconnected LPG-systems .....</b>	<b>77</b>
<b>Bibliography .....</b>	<b>80</b>