

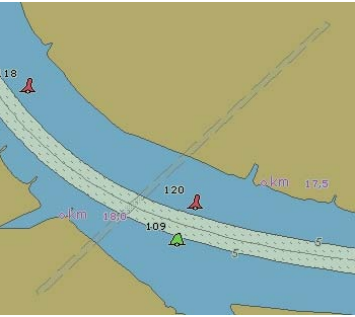


# G - Ports, Waterways

## G.1 Bridges, Tunnels, Overhead Obstructions

### G.1.7 Tunnel (C)

A passage that is open to the atmosphere at both ends, buried under the sea bed or laid over the sea floor or bored under the ground or through mountains. (S-57 Standard)

Graphics	Encoding Instructions	Object Encoding
<p><i>Real World</i></p>  <p><i>Chart Symbol</i></p>  <p><i>IENC Symbolization</i></p> 	<p>A) If there is a waterway navigable at compilation scale, inside the tunnel, this waterway is encoded as a navigable canal with DEPARE or DRGARE. There is no LNDARE in the area covering the tunnel.</p> <p>B) If there is a waterway which is not navigable at compilation scale, inside the tunnel, this waterway is encoded as a CANALS. The LNDARE covers the tunnel. The attributes HORCLR and VERCLR are not encoded.</p> <p>C) If there is no waterway in the tunnel (but a railway, a road...) only the TUNNEL should be encoded (not the railway or the road), covered by a LNDARE, DEPARE or DRGARE as appropriate. The attributes HORCLR and VERCLR are not encoded.</p> <p>D) If a structured external XML-file with more detailed communication information is available, the reference to the file has to be entered in the TXTDSC attribute.</p> <p>E) If the navigable tunnel has a special time schedule or special operating hours apply, the object can be combined with a time schedule. For this purpose please refer to the time schedule (general) object 'tisdge' see T.1.1</p> <p>F) TUNNEL shall be encoded if:</p> <ul style="list-style-type: none"> <li>- anchoring is prohibited over the tunnel or</li> <li>- the tunnel is navigable i.,e. has a DEPARE or DRGARE</li> </ul> <p>G) All objects of a tunnel which belong to one tunnel must be combined to one aggregation area (C_AGGR), if a navigable waterway passes through the tunnel, e.g.</p> <ul style="list-style-type: none"> <li>- notice marks</li> <li>- communication area</li> </ul>	<p><b>Object Encoding</b></p> <p><b>Object Class = TUNNEL(L,A)</b></p> <p>(O) BURDEP = [xx.x ] (metres), e.g., 2.5</p> <p>(C) HORCLR = [xx.x] (metres), e.g., 34.2</p> <p>(C) VERCLR = [xx.xx] (metres), e.g., 13.27</p> <p>(O) OBJNAM = [name and/or operator/owner]</p> <p>(O) NOBJNM = (Refer to Section B, General Guidance)</p> <p>(O) TXTDSC = (Refer to letter D)</p> <p>(O) CONDTN = [1 (under construction), 2 (ruined), 3 (under reclamation), 5 (planned construction)]</p> <p>(M) SCAMIN = [EU: 22000; US: 45000]</p> <p>(C) SORDAT = [YYYYMMDD]</p> <p>(C) SORIND = (Refer to Section B, General Guidance)</p> <p><b>Object Encoding</b></p> <p><b>Object Class = C_AGGR()</b></p> <p>(M) OBJNAM = [name and/or operator/owner]</p> <p>(O) NOBJNM = (Refer to Section B, General Guidance)</p> <p>(O) TXTDSC = (Refer to letter D)</p> <p>(C) unlocd = [ISRS code]</p> <p>(C) SORDAT = [YYYYMMDD]</p> <p>(C) SORIND = (Refer to Section B, General Guidance)</p>

	<ul style="list-style-type: none"><li>- restricted area</li><li>- fenders</li><li>- vertical clearance indicators</li><li>- depth indicators</li><li>- signal stations</li><li>- radio call-in points</li><li>- overhead cables and pipelines</li></ul>	
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