

# ISO 11982:2025-11 (E)

## Refrigerated hydrocarbon and non-petroleum based liquefied gaseous fuels - Liquefied Natural Gas (LNG) as marine fuel - Measurement on board LNG bunkering ship

---

<b>Contents</b>		<b>Page</b>
<b>Foreword</b>		<b>iv</b>
<b>Introduction</b>		<b>v</b>
<b>1</b>	<b>Scope</b>	<b>1</b>
<b>2</b>	<b>Normative references</b>	<b>1</b>
<b>3</b>	<b>Terms and definitions</b>	<b>1</b>
<b>4</b>	<b>On-board measurement</b>	<b>4</b>
4.1	Outline	4
4.2	Static measurement	5
4.2.1	General	5
4.2.2	Tank capacity table	5
4.2.3	Custody transfer measurement system (CTMS)	6
4.3	Dynamic measurement	7
4.3.1	General	7
4.3.2	Dynamic measurement equipment performance	7
4.3.3	Calibration	7
4.3.4	Measurement	7
<b>5</b>	<b>On-board sampling</b>	<b>7</b>
<b>6</b>	<b>Analysis</b>	<b>8</b>
6.1	General	8
6.2	Online analysis	8
<b>7</b>	<b>Calculation method</b>	<b>8</b>
7.1	General	8
7.2	Static measurement	9
7.2.1	General	9
7.2.2	Liquid level	10
7.2.3	Liquid and vapour temperature	10
7.2.4	Vapour pressure	10
7.2.5	Trim and list	10
7.3	Dynamic measurement	10
7.4	Energy calculation	10
7.4.1	Liquid energy	10
7.4.2	Vapour energy	12
7.4.3	Wobbe index	14
7.5	Methane number calculation	14
<b>Annex A</b> (informative)	<b>Processing of CTMS data</b>	<b>15</b>
<b>Annex B</b> (informative)	<b>Calculation example</b>	<b>19</b>
<b>Annex C</b> (informative)	<b>Treatment of unsupported components</b>	<b>29</b>
<b>Annex D</b> (informative)	<b>Example of parameters in a bunker delivery note</b>	<b>30</b>
<b>Annex E</b> (informative)	<b>Estimation of the composition of comingled LNG</b>	<b>31</b>
<b>Bibliography</b>		<b>36</b>