

## **Appendix 4 QUALITY SPECIFICATIONS**

Natural Gas that is delivered at an Input Point for transmission to a Storage Point, or Natural Gas that is delivered at a Storage Point must be compliant with the following Quality specifications.

### **Quality specifications**

<u>Parameter</u>	<u>General tolerance range</u>
Upper Wobbe Index	13,6 – 15,81 kWh/Nm <sup>3</sup> ; 49,0 – 56,9 MJ/Nm <sup>3</sup>
Upper Calorific Value	10,1 – 13,2 kWh/Nm <sup>3</sup> ; 36,5 – 47,6 MJ/Nm <sup>3</sup>
Relative Density	0,555 – 0,70
Temperature	0 - 50 °C

<u>Parameter</u>	<u>Highest permitted values</u>
Hydrocarbon dew point	- 2 °C at existing pressure levels up to 70 bar (a)
Walter dew point	- 8 °C at 70 bar (a)
Total sulphur excluding hydrogen sulphide and sulphur for odorization	10 mg(S)/Nm <sup>3</sup>
Sulphur for odorization	
- mean annual value	6 mg(S)/Nm <sup>3</sup>
- short-term	16 mg(S)/Nm <sup>3</sup>
Hydrogen sulphide	5 mg(S)/Nm <sup>3</sup>

<u>Parameter</u>	<u>Requirement</u>
Oxygen (O <sub>2</sub> )	0.1 mol %
Carbon dioxide (CO <sub>2</sub> )	2.5 mol %
Hydrate formation	At a temperature of - 8 °C or above, must not be possible at existing pressure levels of up to 70 bar (a)

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<u>Parameter</u>	<u>Requirement</u>
Dust	The Natural Gas must be technically free of gaseous, solid or liquid substances in the quantities that may involve a risk of clogging or corrosion or otherwise harm public gas equipment. However, exceptions are applicable to liquid pollutants that occur in very small drops that are impossible to remove from the Natural Gas.