

Appendix 2 - Technical specifications of gas quality in the transmission system

Gas, which will be supplied for transmission, shall have the following properties:

Parameter	Symbol	Unit	Value	
			min	max
Wobbe index	<i>WI</i>	kWh/m ³	13.59	15.81
Upper calorific value	<i>H_s</i>	kWh/m ³	10.54	12.8
Relative density	<i>d</i>	/	0.545	0.7
Total sulphur without odorant	Total S	mg/m ³		20
Hydrogen sulphide and carbonyl sulfide	H ₂ S + COS	mg/m ³		5
Mercaptan sulphur	RSH	mg/m ³		6
Oxygen*	O ₂	mol %		1
Carbon dioxide	CO ₂	mol %		2.5
Hydrogen**	H ₂	mol %		2
Water dew point	H ₂ O DP	°C at $p_a = 70$ bar		-8
Hydrocarbons dew point***	HC DP	°C at ($1 \text{ bar} < p_a < 70 \text{ bar}$)		-2
Highest gas temperature	<i>t</i>	°C		42
Methane number	MN	/	70	

Explanatory notes:

- p_a ... absolute pressure;
- Wobbe index and upper calorific value are given at a reference temperature of gas combustion 25 °C;
- Volumes of gas in m³ refer to reference conditions at a temperature of 0 °C and at an absolute pressure of 1.01325 bar;
- Methane number is calculated on the basis of algorithms in the standard SIST EN 16726;
- Gas contains no mechanical impurities, resins, liquid hydrocarbons or components, which form resins;

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- Within the gas transmission system of the Republic of Slovenia, the oxygen concentration shall not exceed 1 mol %;
- At cross-border entry points into the Republic of Slovenia, the oxygen concentration shall not exceed 0.001 mol %;
- At entry points located within the Republic of Slovenia, the maximum permissible oxygen molar concentration, expressed as a 24-hour rolling average, shall be determined by the transmission system operator on the basis of hydraulic analysis;

** Hydrogen value is determined in accordance with Regulation (EU) 2024/1789;

*** Short-term hydrocarbon dew points of up to 0 °C are allowed.

In addition to the gas quality specifications already required, biomethane and synthetic methane must also meet additional requirements for injection into the gas transmission system:

Parameter	Symbol	Unit	Value	
			min	max
Carbon monoxide	CO	mol %		0.1
Ammonia and amines ****	NH ₃	mg/m ³		10
Silicon	Si	mg/m ³		0.3
Methane concentration	CH ₄	mol %	95	
Propane concentration	C ₃ H ₈	mol %		5
Butane concentration	C ₄ H ₁₀	mol %		15

Explanatory note:

**** For periods of up to 3 hours, and for a cumulative total of up to 240 hours per year, the concentration may be in the range of up to 20 mg/m³.

The gas transmission system operator reserves the right to take a sample of biomethane or synthetic gas being injected into the transmission system, for the purpose of ensuring compliance with the required gas quality specifications, and to have its composition verified by a competent professional institution.