



Offered assortment of coal produced by OKD, a.s.

(General overview and characteristics of the individual commodities)

Coking Coal (washed mixture)

Hard Coking Coal (coking fat coal to coking coal)

Due to its high dilatation, FSI, and CSR value, this coal belongs to the HCC category (hard coking coal); the coal is produced by the prep. plant of ČSM Mine.

Steam Coal

HCV Washed Coal

This coal, produced by the prep. plant, has high NCV with low ash content, and it is used in large power plants, cement plants, and, in particular, in PCI technology.

Dust

Dust is produced by the coal plants by sorting out the fraction with grain size of 0-20(30) mm, used in energy & heat industry.

Middlings

Produced by the coal plant, this coal has lower NCV and higher ash content, and is used in energy & heat industry.

Energy heating mixtures

In case of customer needs, we can realize the production of energy heating mixtures in the calorific value range between 15-24 MJ/ kg.

Quality Inspection and Management

- Compliance with the contractual quality parameters is inspected by the Quality Inspection and Management in close cooperation with the Preparation plants by using control systems of the individual technological facilities, using real-time monitoring of ash, water, sulphur content, and NCV.
- Samples, taken from the respective fuel types, are measured and evaluated by the central laboratory of OKD, a.s. situated in the former Lazy Mine area. The laboratory is accredited according to the ČSN EN ISO / IEC 17025:2005 standards, and registered under No. 1503.
- State-of-the-art instruments allow determination of basic as well as specific parameters of coal and gas. All laboratory procedures meet the ČSN and ČSN ISO standards.
- Special parameters, also determined by the laboratory, in line with the trends of coking coal quality development, include the CRI and CSR parameters, based on the Nippon Steel Method, plasticity, and silicate analysis.

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General Contacts

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Quality parameters of coal

Coking coal - washed mixture

mine (coal plant)	grain size mm	water content W_t^r %	ash content A^d %	volatile matter content V^{daf} %	swelling index SI min.	dilatation b min. %	sulphur content S_t^d %	phosphorus content P^d %	plasticity F_{max} ddpm
ČSM	0-50	10,5-11,0	8,0-9,0	21,0-27,0	6	60	0,5-0,7	0,02-0,04	500

Steam coal

mine (coal plant)	fuel type	grain size mm	water content W_t^r %	ash content A^d %	volatile matter content V^{daf} %	sulphur content S_t^d %	net calorific value Q_i^r MJ/ kg
OKD	HCV washed coal	0-50	8,5-11,0	7,5-9,0	22,0-29,0	0,5-0,6	28,5-29,5
OKD	Dust	0-20 (30)	9,0-12,0	20,0-27,0	22,0-29,0 (35)	0,5-0,6	22,0-24,0
OKD	Middlings	0-30	10,0-14,0	38,0-45,0	28,0-35,0	0,6-0,7	16,0-18,0

In the case of a customer's request, we can realize the production of energy heating mixtures in the calorific value range of 15-24 MJ/ kg.

W_t^r	total water content of original sample (t - total; r - received)
A^d	ash content in a water-free state (d - dry)
V^{daf}	volatile matter content (daf - dry ash free; in combustibles)
b	dilatation
F_{max}	maximum fluidity (dial division per minute)
SI	swelling index (non-dimensional value)
Q_i^r	net calorific value (gross calorific value reduced by the evaporation heat of water)
S_t^d	total sulphur content (t - total; d - dry)
P^d	phosphorus content (d - dry)

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EA MLA Signatory
Český institut pro akreditaci, o.p.s.
Olšanská 54/3, 130 00 Praha 3

issues

according to section 16 of Act No. 22/1997 Coll., on technical requirements for products, as amended

CERTIFICATE OF ACCREDITATION

No. 164/2021

OKD, a.s.
with registered office č.p. 1077, 735 34 Stonava, Company Registration No. 05979277

to the Testing Laboratory No. 1503
Fuel Testing Laboratory

Scope of accreditation:

Laboratory analysis of solid fuels to the extent as specified in the appendix to this Certificate.

This Certificate of Accreditation is a proof of Accreditation issued on the basis of assessment of fulfillment of the accreditation criteria in accordance with

ČSN EN ISO/IEC 17025:2018

In its activities performed within the scope and for the period of validity of this Certificate, the Body is entitled to refer to this Certificate, provided that the accreditation is not suspended and the Body meets the specified accreditation requirements in accordance with the relevant regulations applicable to the activity of an accredited Conformity Assessment Body.

This Certificate of Accreditation replaces, to the full extent, Certificate No.: 459/2020 of 20. 7. 2020, or any administrative acts building upon it.

The Certificate of Accreditation is valid until: **20. 7. 2025**

Prague: 11. 3. 2021




Pavel Nosek
Director of the Department
of Testing and Calibration Laboratories
Czech Accreditation Institute
Public Service Company

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Accredited entity according to ČSN EN ISO/IEC 17025:2018:

OKD, a.s.

Fuel Testing Laboratory

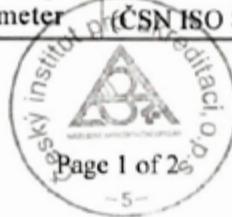
Stonavská 2179, Doly, 735 06 Karviná

Testing Laboratory Locations:

- | | |
|----------------------------|--------------------------------------|
| 1. Chemical Laboratory CHL | Orlová – Lazy, č. p. 605 |
| 2. OTK Laboratory (Lazy) | Orlová – Lazy, č. p. 605 |
| 3. OTK Laboratory (ČSM) | č. p. 1077, Stonava, 735 34 |
| 4. OTK Laboratory (Darkov) | Stonavská 2179, Doly, 735 06 Karviná |

Tests:

Ordinal number ¹	Test procedure/method name	Test procedure/method identification ²	Tested object
1 ^{2,3,4}	Determination of total water content / gravimetry	P3 SM8 (ČSN 44 1377)	Black coal
2 ¹	Determination of water content in analytical sample / gravimetry	P4 SM8 (ČSN 44 1377)	Black coal
3 ¹	Determination of ash / gravimetry	P5 SM8 (ČSN ISO 1171)	Black coal
4 ¹	Determination of volatile combustible matter / gravimetry	P6 SM8 (ČSN ISO 562)	Black coal
5 ¹	Determination of water content in analytical sample and ash on TGA analyzer / gravimetry	P7 SM8 (ČSN ISO 11722, ČSN ISO 1171, LECO Manual)	Black coal
6 ¹	Determination of total sulphur content / analyzer with IR detection	P8 SM8 (ČSN ISO 19579, LECO manual)	Black coal
7 ¹	Determination of gross calorific value / calorimetry and calculation of net calorific value	P9 SM8 (ČSN ISO 1928, ČSN 44 1310)	Black coal
8 ¹	Determination of total carbon, hydrogen and nitrogen/ combustion method on analyzer with IR and TC detection	P10 SM8 (ČSN ISO 29541, LECO manual)	Black coal
9 ¹	Determination of the crucible swelling number / visual method	P11 SM8 (ČSN ISO 501)	Black coal
10 ¹	Determination of the swelling properties using a dilatometer	P12 SM8 (ČSN ISO 8264)	Black coal



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The Appendix is an integral part of
Certificate of Accreditation No. 164/2021 of 11/03/2021

Accredited entity according to ČSN EN ISO/IEC 17025:2018:

OKD, a.s.

Fuel Testing Laboratory

Stonavská 2179, Doly, 735 06 Karviná

- ¹ Asterisk at the ordinal number identifies the tests, which the Laboratory is qualified to carry out outside the permanent laboratory premises. Superscript at the ordinal number identifies the workplace number, where the method/test is performed.
- ² If the document identifying the test procedure is dated, only these specific procedures are used. If the document identifying the test procedure is not dated, the latest edition of the specified procedure is used (including any changes)

Explanations:

TGA	Thermogravimetric Analyzer
IR	Infrared Detection
TC	Thermal Conductivity Detection



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