
INTERNATIONAL STANDARD



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**Brown coals and lignites — Classification by types
on the basis of total moisture content and tar yield**

Charbons bruns et lignites — Classification en types, d'après la teneur en humidité totale et le rendement en goudron

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Descriptors : coal, lignite, classification, moisture content, tars, yield.

FOREWORD

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Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 2950 was drawn up by Technical Committee ISO/TC 27, *Solid mineral fuels*, and circulated to the Member Bodies in November 1972.

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It has been approved by the Member Bodies of the following countries:

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Belgium	Iran	Thailand
Bulgaria	Italy	Turkey
Canada	New Zealand	U.S.A.
Czechoslovakia	Poland	U.S.S.R.
Denmark	Portugal	Yugoslavia
France	South Africa, Rep. of	
India	Sweden	

The Member Body of the following country expressed disapproval of the document on technical grounds :

Australia

Brown coals and lignites – Classification by types on the basis of total moisture content and tar yield

1 SCOPE AND FIELD OF APPLICATION

This International Standard establishes a classification of brown coals and lignites by types on the basis of total moisture content and tar yield.

Until reliable parameters for differentiation of brown and hard coals are worked out and confirmed, coals considered in each country as brown, on the basis of a number of other characteristics, should be classified as brown coals regardless of their calorific value, i.e. including the cases when the gross calorific value of the coal in equilibrium with air at 30 °C and 96 % relative humidity is more than 24 000 kJ/kg on the ash-free basis.

2 REFERENCES

ISO/R 647, *Determination of the yields of tar, water, gas and coke residue by low temperature distillation of brown coal and lignite.*

ISO/R 1015, *Determination of moisture in brown coals and lignites by the direct volumetric method.*

ISO/R 1171, *Determination of ash of solid mineral fuels.*

3 PRINCIPLE

Brown coals are classified in this International Standard according to the following properties :

- total moisture content calculated on the ash-free basis;
- tar yield calculated on the dry, ash-free basis.

4 CLASSIFICATION INDICES

4.1 Division of brown coals into classes

The brown coals are first divided according to their total moisture content, calculated on the ash-free basis, into the classes shown in table 1.

TABLE 1 – Class numbers of brown coal types

Class number	Total moisture content of run-of-mine coals on the ash-free basis %
1	≤ 20
2	> 20 to 30
3	> 30 to 40
4	> 40 to 50
5	> 50 to 60
6	> 60 to 70

4.2 Division of brown coals into groups

The brown coals, divided into classes as described in 4.1, are then sub-divided according to their tar yield, calculated on the dry, ash-free basis, into the groups shown in table 2.

TABLE 2 – Group numbers of brown coal types

Group number	Tar yield on the dry, ash-free basis %
0	≤ 10
1	> 10 to 15
2	> 15 to 20
3	> 20 to 25
4	> 25

4.3 Code numbers

The type of brown coal is indicated by a two-digit code number in which

- the first digit indicates the class of coal;
- the second digit indicates the group of coal.

4.4 Classification of brown coals by types

The resulting code numbers for the classification of brown coals by types are shown in table 3.

5 METHODS OF TESTING

5.1 Determination of total moisture content

ISO/R 1015 shall be used.

5.2 Determination of tar yield

ISO/R 647 shall be used.

5.3 Determination of ash

ISO/R 1171 shall be used.

TABLE 3 – Code numbers of brown coal types

Group parameter : tar yield on the dry, ash-free basis %	Group number	Code numbers					
> 25	4	14	24	34	44	54	64
> 20 to 25	3	13	23	33	43	53	63
> 15 to 20	2	12	22	32	42	52	62
> 10 to 15	1	11	21	31	41	51	61
≤ 10	0	10	20	30	40	50	60
Class number		1	2	3	4	5	6
Class parameter : total moisture content of run-of-mine coal on the ash-free basis, %		≤ 20	> 20 to 30	> 30 to 40	> 40 to 50	> 50 to 60	> 60 to 70