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The following table shows the Soviet classification of southern USSR coals by content of volatile matter and coke-button characteristics. The PZh, K and PS groups were considered "suitable" coking coals, but the other groups were sometimes used in blending.

Group	Name	Symbol	V.M. o/o	Coke-Button Properties
1	Long-flame coal	D	>42	Nonagglomerated: Pulverulent or just coherent
2	Gas coal	G	35-44	Agglomerated, fused, sometimes swollen
3	Fatty-steam coal	PZh	26-35	Agglomerated, fused, firm
4	Coking coal	K	18-26	DTO
5	Dry-steam coal	PS	12-18	Agglomerated or fused, firm or moderate firm
6	Lean coal	T	<17	Nonagglomerated: Pulverulent or just coherent

2.

In the pre-World War II coking industry the percentage of gas coals in coal blends in certain coking plants reached 15%. The use of gas coals in a

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25X1 coal blend made it easy to push the coke cake from the oven, reduced the
25X1 cross-fissuring of the coke, and increased the yield of coal chemicals and
coke-oven gas. an article in post-World War II USSR
25X1 coke literature described the use of up to 25% gas coals in the
Stalino coking plant in the Donetz Basin. According to the article, this
25X1 resulted in a good quality blast furnace coke, easier conditions for coke
oven operation, and reduction of coking time from 16.4 hours to 15.9 hours.

3.

The use of more gas coal results in a decreased yield of coke and an additional load on the recovery plant because of the increased yield of by-products.

4.

25X1 Changes were necessary in the operating conditions of the coke ovens and the chemical recovery plants. (See 2 above)

5.

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6.

7.

The use of class "T" coals instead of "K" and "PS" coals as a leaning component of coal blends is very desirable, but requires special equipment for fine disintegration of "T" coals. Nevertheless, "T" coal has been used in some USSR coking plants. One example is the Staro-Makeevskiy plant which in 1934 used 8.5% "T" coals. 25X1

8.

In the first six months of 1939 the average consumption of dry coal for one ton of dry coke was as follows:

(a) In the southern coking industry - 1.418.
(b) At the Kemenovo coking plant - 1.289.

25X1 The average percentage of breeze in the coke produced in 1939 was as follows:

(a) The Donbas plants - 6.03%
(b) One of the Ural plants - 11.7%
(c) One of the Kuzbas plants - 10.64%

9.

25X1 The following were the principal difficulties in the coke industry in 1939:

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(a) Coal supply. In 1938 coal deliveries to the coke industry were only 88.3% of the planned objective, and in the first six months of 1939 only 93.6%. In addition, 7.5% to 9.2% of the coal delivered was defective or unconditioned.

(b) Coal cleaning. Requirements for both quantity and quality could not be met by the coal cleaning plants.

(c) Coke production. The coke ovens could not meet the requirements of the blast furnaces in either quality or quantity. In 1938 production was only 87% of the planned amount, and in the first half of 1939 was 96.4%. Also the average ash content of the coke was 10.7% in the first half of 1939 when the plan called for a maximum of 10%.

(d) Misuse of coke oven gas. The metallurgical furnaces frequently lacked fuel gas because the coke oven gas was either wasted or used for underfiring the coke ovens.

10.

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The percentage of by-product coke to total coke produced in the USSR is shown in the following table.

1929	1930	1931	1932	1934*	1937*	1938*
79.3	84.1	86.3	90.1	89.0	89.7	91.0

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*European part of USSR only.

There follow the names of some non-recovery coking plants located in the Donbas, viz:

(a) Alekseyevskaya
(b) Shirokovskaja [sic]
(c) Sovetskaya
(d) Ekaterinovskaja [sic]
(e) Khanzhonkovskaja [sic]
(f) Khartsizskaja [sic]

11.

12.

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The Soviets' principal interest was in the low-temperature carbonization of some types of low-grade coals such as the type "D", long-flame coals of Lisichansk in the Donbas, the brown coals of the Moscow region, etc. They planned to establish combination power stations and chemical recovery plants. Further information on this and other questions is available at the Library of Congress.

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