

Metallurgical Coal Specifications – Elga Hard Coking Coal

| PROXIMATE ANALYSIS, % | | Guaranteed | ASH CONSTITUENTS, % For reference | |
|---------------------------------|--|----------------------|--|----------------|
| % Ash (ADB) | | 10 max | Fe ₂ O ₃ | 8.8 |
| % Volatile Matter (ADB) | | 32%-34 | CaO | 10.1 |
| % Moisture (ARB) | | 10 max | SiO ₂ | 46.6 |
| FC | | By difference | P ₂ O ₅ | 0.46 |
| % Sulphur (ADB) | | 0.30 max | MgO | 3.46 |
| % Phosphorus (DB) | | 0.025 max | MnO | 0.09 |
| ALKALIES ANALYSIS, %. | | Typical | Al ₂ O ₃ | 21.5 |
| Na ₂ O | | 0.79 | TiO ₂ | 1.4 |
| K ₂ O | | 1.20 | P ₂ O ₅ | See above |
| Total Alkalis | | 1.99 | SO ₃ | 4.74 |
| | | | | |
| RHEOLOGICAL PROPERTIES | | Typical | HGI and GCV | Typical |
| CSN | | 8 | HGI | 70-80 |
| GK | | G10 | GCV, kcal/kg (DB) | 7500 min |
| | | | | |
| GIESELER PLASTOMETER | | Typical | AUDIBERT-ARNU DILATOMETRY TEST | |
| Max. Fluidity, ddpm | | 30,000-60,000 | Max. Contraction, % | 27 |
| Initial Softening Temperature | | 385 deg C | Max. Expansion, % | |
| Resolidification Temperature | | 485 deg C | Total Dilatation, % | >300 |
| Plastic range | | | | |
| | | | | |
| MACERALS ANALYSIS, % | | For reference | VITRINITE DISTRIBUTION, % | |
| | | | For reference | |
| Vitrinite | | 97 | | |
| Semi-Vitrinite | | | V6 | |
| Oxi-vitrinite | | | V7 | |
| Exinite / Liptinite | | | V8 | 30 |
| Inertinite | | | V9 | 43 |
| Mineral Matter | | 4.6 | V10 | 27 |
| | | | V11 | |
| Vitrinite Reflectance, % | | For reference | V12 | |
| Ro (avg.) | | 0.95 | V13 | |
| MMR | | 0.95-1.05 | V14 | |
| | | | V15 | |
| Wall Pressure, psi | | | V16 | |
| Oxidation, % | | | | |
| Coke CSR | | | Coke M40 | |
| Coke CRI | | | Coke M10 | |