

شرکت مهندسی فناوری صدر فردا با هدف انباشت، نگهداشت و مدیریت دانش فنی و دستاوردهای علمی، به عنوان بازوی مهندسی و نوآوری شرکت سرمایه گذاری صدر تأمین تاسیس شد.

صدر فردا به پشتوانه نیروی انسانی متخصص و ضمن بهره گیری از شبکه های تخصصی موجود در کشور، سعی در بکارگیری قابلیت ها و ظرفیت های صاحب نظران، کارشناسان، متخصصان و پژوهشگران دارد تا با ارائه خدمات فنی، مهندسی، مشاوره و مدیریتی در طراحی و اجرای پروژه های صنعتی، به عنوان مجموعه ای چابک و پیشرو در جهت رفع نیازهای مهندسی، فناوری و مدیریت طرح های سهامداران با اولویت معدن، صنایع معدنی و مواد پیشرفته، گام بردارد.

در حال حاضر صدر فردا دارای کادر حرفه ای متشکل از مدیران، مهندسان و کارشناسان با تجربه در حوزه های صنایع معدنی، صنایع نفت و گاز و پتروشیمی، صنعت فولاد و صنایع شیمیائی است. شرکت تاکنون پروژه های گوناگونی را برای کارفرمایان مختلف به انجام رسانده است که صلاحیتش برای عرضه خدمات بوسیله سازمان ها و شرکت های بزرگ و کوچک دولتی و خصوصی با ارجاع خدمات مورد نیاز پروژه های مهم به این شرکت، تأیید شده است.

صدر فردا با تأیید معاونت علمی و فناوری ریاست جمهوری در سال ۱۳۹۹ به عنوان نخستین شرکت در زیرمجموعه های هلدینگ سرمایه گذاری تأمین اجتماعی (شتا) موفق به اخذ مجوز دانش بنیان شده است.



ISO Standards for use in the Mining and Minerals industry



- This poster includes over 250 standards that apply to mining and minerals, focusing on some of the more prominent documents that cover mining and quarrying, coals, metalliferous minerals and their concentrates, non-metalliferous minerals, mining equipment and equipment for processing of minerals. Some standards titles are summarized. Prepared by SadreFarda – 2024 – all rights reserved. Sadrefarda.com

Committed to Build
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Mining and quarrying



Coals



Iron ores



Manganese ores



Chromium ores



Aluminium ores



Other metalliferous minerals



Non-metalliferous minerals



Equipment for drilling and mine
excavation



Haulage and hoisting equipment



Other mining equipment



Equipment for processing of minerals



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Mining and quarrying

ISO 4657	Assessment specification of coalbed methane resources
ISO 18871	Method of determining coalbed methane content
ISO 18875	Coalbed methane exploration and development
ISO 19426	Structures for mine shafts
ISO 19434	Classification of mine accidents
ISO 20305	Mine closure and reclamation
ISO 21795	Mine closure and reclamation planning
ISO 22932	Mining Vocabulary
ISO 23664	Traceability of rare earths in the supply chain from mine to separated products
ISO 23872	Mining Underground structures
ISO 23875	Air quality control systems for operator enclosures
ISO 24419	Mine closure and reclamation



Coals

ISO 157	Coal — Determination of forms of sulfur
ISO 334	Coal and coke — Determination of total sulfur — Eschka method
ISO 349	Hard coal — Audibert-Arnu dilatometer test
ISO 501	Hard coal — Determination of the crucible swelling number
ISO 502	Coal — Determination of caking power — Gray-King coke test
ISO 540	Hard coal and coke — Determination of ash fusibility
ISO 562	Hard coal and coke — Determination of volatile matter
ISO 589	Hard coal — Determination of total moisture
ISO 602	Coal — Determination of mineral matter
ISO 609	Solid mineral fuels — Determination of carbon and hydrogen High temperature combustion method
ISO 625	Solid mineral fuels — Determination of carbon and hydrogen Liebig method
ISO 647	Brown coals and lignites — Determination of the yields of tar, water, gas and coke residue
ISO 975	Brown coals and lignites — Determination of yield of benzene soluble extract
ISO 1017	Brown coals and lignites — Determination of acetone-soluble material in the benzene-soluble extract
ISO 1018	Coal — Determination of moisture-holding capacity
ISO 1170	Coal and coke — Calculation of analyses to different bases
ISO 1213	Coal and coke — Vocabulary
ISO 1952	Solid mineral fuels — Determination of extractable metals in dilute hydrochloric acid
ISO 1953	Hard coal — Size analysis by sieving
ISO 2950	Brown coals and lignites — Classification by types on the basis of total moisture content and tar yield





Coals

ISO/TS 4667	Coal — Determination of the thermal stability and thermal fragmentation
ISO/TS 4676	Coal — Determination of carboxyreactivity
ISO/TS 4699	Hard Coal — Determination of plastometric indices
ISO 5068	Brown coals and lignites — Determination of moisture content
ISO 5071	Brown coals and lignites — Determination of the volatile matter in the analysis sample
ISO 5072	Brown coals and lignites — Determination of true relative density and apparent relative density
ISO 5073	Brown coals and lignites — Determination of humic acids
ISO 5074	Hard coal — Determination of Hardgrove grindability index
ISO 7404	Methods for the petrographic analysis of coals
ISO 7936	Coal — Determination and presentation of float and sink characteristics
ISO 8264	Hard coal — Determination of the swelling properties using a dilatometer
ISO 8833	Magnetite for use in coal preparation
ISO 8858	Hard coal — Froth flotation testing
ISO 9931	Coal — Sampling of pulverized coal conveyed by gases in direct fired coal systems
ISO 10086	Coal — Methods for evaluating flocculants for use in coal preparation
ISO 10329	Coal — Determination of plastic properties
ISO 11722	Solid mineral fuels — Hard coal — Determination of moisture
ISO 11723	Solid mineral fuels — Determination of arsenic and selenium
ISO 11724	Solid mineral fuels — Determination of total fluorine in coal, coke and fly ash
ISO 11760	Classification of coals
ISO 12900	Hard coal — Determination of abrasiveness
ISO 13605	Solid mineral fuels — Major and minor elements in coal ash and coke ash
ISO 13909	Hard coal and coke — Mechanical sampling
ISO 14180	Coal — Guidance on the sampling of coal seams
ISO 15117	Coal flow properties
ISO 15237	Solid mineral fuels — Determination of total mercury content of coal
ISO 15238	Solid mineral fuels — Determination of total cadmium content of coal
ISO 15585	Hard coal — Determination of caking index
ISO 17246	Coal — Proximate analysis
ISO 17247	Coal and coke — Ultimate analysis
ISO 18283	Coal and coke — Manual sampling
ISO 19579	Solid mineral fuels — Determination of sulfur by IR spectrometry
ISO 20360	Brown coals and lignites — Determination of the volatile matter
ISO/TS 20362	Hard coal — Determination of plastometric indices
ISO 20904	Hard coal — Sampling of slurries
ISO 20905	Coal preparation — Determination of dust/moisture relationship for coal
ISO 21398	Hard coal and coke — Guidance to the inspection of mechanical sampling systems
ISO 23380	Coal — Selection of methods for the determination of trace elements





Coals

- ISO 23499 Coal — Determination of bulk density for the use in charging of coke ovens
- ISO 23604 Method of determining specific surface area of coal
- ISO 23873 Hard coal — Method for the measurement of the swelling of hard coal using a dilatometer
- ISO 29541 Solid mineral fuels — Determination of total carbon, hydrogen and nitrogen content



Iron ores

- ISO 2596 Iron ores — Determination of hygroscopic moisture in analytical samples
- ISO 2597 Iron ores — Determination of total iron content
- ISO 2598 Iron ores — Determination of silicon content
- ISO 2599 Iron ores — Determination of phosphorus content
- ISO 3082 Iron ores — Sampling and sample preparation procedures
- ISO 3084 Iron ores — Experimental methods for evaluation of quality variation
- ISO 3085 Iron ores — Experimental methods for checking the precision of sampling
- ISO 3086 Iron ores — Experimental methods for checking the bias of sampling
- ISO 3087 Iron ores — Determination of the moisture content of a lot
- ISO 3271 Iron ores for blast furnace and direct reduction feedstocks — Determination of the tumble and abrasion indices
- ISO 3852 Iron ores for blast furnace and direct reduction feedstocks — Determination of bulk density
- ISO 4687 Iron ores — Determination of phosphorus content
- ISO/TR 4688 Iron ores — Determination of aluminium
- ISO 4689 Iron ores — Determination of sulfur content
- ISO 4691 Iron ores — Determination of titanium
- ISO 4694 Iron ores — Determination of fluorine content
- ISO 4695 Iron ores for blast furnace feedstocks — Determination of the reducibility by the rate of reduction index
- ISO 4696 Iron ores for blast furnace feedstocks — Determination of low-temperature reduction-disintegration indices by static method
- ISO 4698 Iron ore pellets for blast furnace feedstocks — Determination of the free swelling index
- ISO 4700 Iron ore pellets for blast furnace and direct reduction feedstocks
Determination of the crushing strength
- ISO 4701 Iron ores and direct reduced iron — Determination of size distribution by sieving
- ISO 5416 Direct reduced iron — Determination of metallic iron
- ISO 5418 Iron ores — Determination of copper
- ISO 6830 Iron ores — Determination of aluminium content
- ISO 7215 Iron ores for blast furnace feedstocks — Determination of the reducibility by the final degree of reduction index
- ISO 7335 Iron ores — Determination of combined water content
- ISO 7764 Iron ores — Preparation of predried test samples for chemical analysis



ISO 7834	Iron ores — Determination of arsenic content
ISO 7992	Iron ores for blast furnace feedstocks — Determination of reduction under load
ISO 8263	Iron ore fines — Method for presentation of the results of sintering tests
ISO 8371	Iron ores for blast furnace feedstocks — Determination of the decrepitation index
ISO 9035	Iron ores — Determination of acid-soluble iron(II) content
ISO 9516	Iron ores — Determination of various elements by X-ray fluorescence spectrometry
ISO 9517	Iron ores — Determination of water-soluble chloride
ISO 9682	Iron ores — Determination of manganese content
ISO 9683	Iron ores — Determination of vanadium
ISO 9685	Iron ores — Determination of nickel and/or chromium contents
ISO/TR 9686	Direct reduced iron — Determination of carbon and/or sulfur
ISO 10203	Iron ores — Determination of calcium
ISO 10204	Iron ores — Determination of magnesium
ISO 10835	Direct reduced iron and hot briquetted iron — Sampling and sample preparation
ISO 11256	Iron ore pellets for shaft direct-reduction feedstocks — Determination of the clustering index
ISO 11257	Iron ores for shaft direct-reduction feedstocks — Determination of the degree of metallization
ISO 11258	Iron ores for shaft direct-reduction feedstocks — Determination of the reducibility index
ISO 11323	Iron ore and direct reduced iron — Vocabulary
ISO/TR 11422	Iron ores — Recommended procedures for iron ore dissolution using either acid digestion or alkali fusion
ISO 11459	Iron ores — Certified reference materials
ISO 11533	Iron ores — Determination of cobalt
ISO 11534	Iron ores — Determination of tin
ISO 11535	Iron ores — Determination of various elements
ISO 11536	Iron ores — Determination of loss on ignition
ISO 13310	Iron ores — Determination of zinc content
ISO 13311	Iron ores — Determination of lead content
ISO 13312	Iron ores — Determination of potassium
ISO 13313	Iron ores — Determination of sodium
ISO 13930	Iron ores for blast furnace feedstocks — Determination of low-temperature reduction-disintegration indices by dynamic method
ISO 15633	Iron ores — Determination of nickel
ISO 15634	Iron ores — Determination of chromium content
ISO 15967	Direct reduced iron — Determination of the tumble and abrasion indices of hot briquetted iron (HBI)
ISO 15968	Direct reduced iron — Determination of apparent density and water absorption of hot briquetted iron (HBI)

 **Iron ores**

ISO 16042	Iron ores — Guidelines for the use of certified reference materials (CRMs)
ISO/TR 16043	Iron ores — Determination of chlorine content
ISO 16742	Iron ores — Sampling of slurries
ISO 16878	Iron ores — Determination of metallic iron content
ISO 17992	Iron ores — Determination of arsenic content
ISO/TR 18230	Iron ores — Determination of loss on ignition
ISO/TR 18231	Iron ores — Wavelength dispersive X-ray fluorescence spectrometers
ISO/TR 18336	Guidelines for good XRF laboratory practice for the iron ore industry
ISO 21283	Iron ores — Determination of specific surface area
ISO 21826	Iron ores — Determination of total iron content using the EDTA photometric titration method
ISO 22682	Iron ores — Determination of trace elements

**Manganese ores**

ISO 310	Manganese ores and concentrates — Determination of hygroscopic moisture content in analytical samples
ISO 312	Manganese ores — Determination of active oxygen content, expressed as manganese dioxide
ISO 315	Manganese ores and concentrates — Determination of nickel content
ISO 317	Manganese ores and concentrates — Determination of arsenic content
ISO 320	Manganese ores — Determination of sulphur content
ISO 548	Manganese ores — Determination of barium oxide content
ISO 549	Manganese ores — Determination of combined water content
ISO 619	Manganese ores — Determination of chromium content
ISO 4293	Manganese ores and concentrates — Determination of phosphorus content
ISO 4295	Manganese ores and concentrates — Determination of aluminium content
ISO 4296	Manganese ores — Sampling
ISO 4297	Manganese ores and concentrates — Methods of chemical analysis
ISO 4298	Manganese ores and concentrates — Determination of manganese content
ISO 4299	Manganese ores — Determination of moisture content
ISO 4571	Manganese ores and concentrates — Determination of potassium and sodium content
ISO 5889	Manganese ores and concentrates — Determination of aluminium, copper, lead and zinc contents
ISO 5890	Manganese ores and concentrates — Determination of silicon content
ISO 6230	Manganese ores — Determination of size distribution by sieving
ISO 6233	Manganese ores and concentrates — Determination of calcium and magnesium contents
ISO 7723	Manganese ores and concentrates — Determination of titanium content
ISO 7953	Manganese ores and concentrates — Determination of calcium and magnesium contents
ISO 7969	Manganese ores and concentrates — Determination of sodium and potassium contents
ISO 7990	Manganese ores and concentrates — Determination of total iron content





Manganese ores

- ISO 8530 | Manganese and chromium ores — Experimental methods for checking the precision of sample division
- ISO 8531 | Manganese and chromium ores — Experimental methods for checking the precision of moisture determination
- ISO 8541 | Manganese and chromium ores — Experimental methods for checking the bias of sampling and sample preparation
- ISO 8542 | Manganese and chromium ores — Experimental methods for evaluation of quality variation and methods for checking the precision of sampling
- ISO 9292 | Manganese ores and concentrates — Determination of total iron content — λ , λ · Phenanthroline spectrometric method
- ISO 9681 | Manganese ores and concentrates — Determination of iron content — Flame atomic absorption spectrometric method



Chromium ores

- ISO 5975 | Chromium ores — Determination of calcium and magnesium contents
- ISO 5997 | Chromium ores and concentrates — Determination of silicon content
- ISO 6127 | Chromium ores — Determination of phosphorus content
- ISO 6129 | Chromium ores — Determination of hygroscopic moisture content in analytical samples
- ISO 6130 | Chromium ores — Determination of total iron content
- ISO 6153 | Chromium ores — Increment sampling
- ISO 6154 | Chromium ores — Preparation of samples
- ISO 6331 | Chromium ores and concentrates — Determination of chromium content
- ISO 6629 | Chromium ores and concentrates — Methods of chemical analysis
- ISO 8889 | Chromium ores and concentrates — Determination of aluminium content



Aluminium ores

- ISO 6139 | Aluminium ores — Experimental determination of the heterogeneity of distribution of a lot





Other metalliferous minerals

- ISO 3483 Copper and zinc sulfide concentrates — Determination of thallium
- ISO 9599 Copper, lead, zinc and nickel sulfide concentrates — Determination of hygroscopic moisture content of the analysis sample
- ISO 10251 Copper, lead, zinc and nickel concentrates — Determination of mass loss of bulk material on drying
- ISO 10258 Copper sulfide concentrates — Determination of copper content
- ISO 10378 Copper, lead and zinc sulfide concentrates — Determination of gold and silver
- ISO 10469 Copper sulfide concentrates — Determination of copper
- ISO 11441 Lead sulfide concentrates — Determination of lead content
- ISO 11790 Copper, lead, zinc and nickel concentrates — Guidelines for the inspection of mechanical sampling systems
- ISO 11794 Copper, lead, zinc and nickel concentrates — Sampling of slurries
- ISO 12739 Zinc sulfide concentrates — Determination of zinc
- ISO 12740 Lead sulfide concentrates — Determination of silver and gold contents
- ISO 12742 Copper, lead and zinc sulfide concentrates — Determination of transportable moisture limits
- ISO 12743 Copper, lead, zinc and nickel concentrates — Sampling procedures for determination of metal and moisture content
- ISO 12744 Copper, lead, zinc and nickel concentrates — Experimental methods for checking the precision of sampling
- ISO 12745 Copper, lead and zinc ores and concentrates — Precision and bias of mass measurement techniques
- ISO 13291 Zinc sulfide concentrates — Determination of zinc
- ISO 13292 Copper, lead, zinc and nickel concentrates — Experimental methods for checking the bias of sampling
- ISO 13543 Copper, lead, zinc and nickel sulfide concentrates — Determination of mass of contained metal in a lot
- ISO 13545 Lead sulfide concentrates — Determination of lead content
- ISO 13546 Copper concentrates — Determination of mercury content
- ISO 13547 Copper, lead, zinc and nickel sulfide concentrates — Determination of arsenic
- ISO 13658 Zinc sulfide concentrates — Determination of zinc content
- ISO 15247 Zinc sulfide concentrates — Determination of silver content — Acid dissolution and flame atomic absorption spectrometric method
- ISO 15661 Copper and nickel sulfide ores and concentrates — Determination of total chlorine content
- ISO/TR 15855 Copper, lead and zinc sulfide concentrates — Step-by-step procedure for the testing of static scales
- ISO 19976 Copper, lead and zinc sulfide concentrates — Determination of cadmium





Non-metalliferous minerals

- ISO 10058 | Chemical analysis of magnesite and dolomite refractory products
(alternative to the X-ray fluorescence method)



Equipment for drilling and mine excavation

- ISO 721 | Rock drilling equipment — Integral stems
- ISO 722 | Rock drilling equipment — Hollow drill steels in bar form, hexagonal and round
- ISO 723 | Rock drilling equipment — Forged collared shanks and corresponding chuck bushings for hollow hexagonal drill steels
- ISO 1717 | Rock drilling — Rotary drill-rods and rotary drill-bits for dry drilling
- ISO 1718 | Rock drilling equipment — Drill rods with tapered connection for percussive drilling
- ISO 1721 | Rock drilling — Extension drill-steel equipment for percussive long-hole drilling — (27 and 32 mm)
- ISO 1722 | Rock drilling — Extension drill-steel equipment for percussive long-hole drilling — (38 to 63 mm)
- ISO 3551 | Rotary core diamond drilling equipment — System A
- ISO 3552 | Rotary core diamond drilling equipment — System B
- ISO 6805 | Rubber hoses and hose assemblies for underground mining
- ISO 8866 | Rotary core diamond drilling equipment — System C
- ISO 10097 | Wireline diamond core drilling equipment — System A
- ISO 10098 | Wireline diamond core drilling equipment — System CSSK
- ISO 10207 | Rock drilling equipment — Rope threaded drill steel equipment for percussive drilling
- ISO 10208 | Rock drilling equipment — Left-hand rope threads
- ISO 18758 | Mining and earth-moving machinery — Rock drill rigs and rock reinforcement rigs
- ISO 19224 | Continuous surface miners (CSM) — Safety requirements
- ISO 19225 | Underground mining machines — Mobile extracting machines at the face





Haulage and hoisting equipment

ISO 610	High-tensile steel chains (round link) for chain conveyors and coal ploughs
ISO 1082	Mining — Shackle type connector units for chain conveyors
ISO 3154	Stranded wire ropes for mine hoisting — Technical delivery requirements
ISO 3155	Stranded wire ropes for mine hoisting — Fibre components
ISO 3156	Stranded wire ropes for mine hoisting — Impregnating compounds, lubricants and service dressings
ISO 5612	Mining — Scraper bars for chain conveyors
ISO 5613	Mining — Drive sprocket assemblies for chain conveyors
ISO 5614	Locked coil wire ropes for mine hoisting
ISO/TR 8865	Mining — Guidance on methods of verifying dimensions of sprocket assemblies for chain conveyors
ISO 22721	Conveyor belts — Specification for conveyor belts of textile construction for underground mining



Other mining equipment

ISO 19296	Mining — Mobile machines working underground
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Equipment for processing of minerals

ISO 561	Coal preparation plant — Graphical symbols
ISO 923	Coal — Density separation equipment for coal
ISO 924	Coal preparation plant — Principles and conventions for flowsheets
ISO 2194	Industrial screens — Woven wire cloth, perforated plate and electroformed sheet
ISO 4077	Coal — Guidance for sampling in coal preparation plants
ISO 4782	Metal wire for industrial wire screens and woven wire cloth
ISO 4783	Industrial wire screens and woven wire cloth — choice of aperture size and wire diameter combinations
ISO 5146	Coal and coke — Coal preparation plant — Density tracer testing
ISO 7805	Industrial plate screens — Thickness of r mm and above
ISO 7806	Industrial plate screens — Codification for designating perforations
ISO 9044	Industrial woven wire cloth
ISO 9045	Industrial screens and screening
ISO 10630	Industrial plate screens
ISO 10752	Coal sizing equipment
ISO 10753	Coal preparation plant
ISO 14315	Industrial wire screens

