



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 50532-2021

**Coal industry design code of repairing facilities for
electro-mechanical equipment of mining district**

Issued on: June 28, 2021

Implemented on: December 1, 2021

**Issued by: Ministry of Housing and Urban-Rural Development of the
People's Republic of China;
State Administration for Market Regulation**

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1 General

1.0.1 This standard is formulated to implement relevant national and coal industry laws, regulations, guidelines, and policies, improve the design quality of electromechanical equipment repair facilities in coal industry mining areas, and unify technical requirements.

1.0.2 This standard is applicable to the engineering design of new construction, reconstruction and expansion of mechanical and electrical equipment repair facilities in underground mining and coal preparation plants.

1.0.3 The mechanical and electrical equipment repair facilities in the mining area should be designed according to the approved overall planning scale of the mining area, and can be built at one time or in stages according to the needs of the mechanical and electrical equipment repair facilities in the mining area construction progress.

1.0.4 In addition to this standard, the design of repair facilities for electromechanical equipment in mining areas shall also comply with the current relevant national standards.

2 Basic regulations

2.0.1 The new repair facilities for electromechanical equipment in mining areas should be composed of repair workshops and corresponding auxiliary facilities, and should be set up according to the amount of electromechanical equipment repairs and professional cooperation conditions.

2.0.2 When the existing capacity of the electromechanical equipment repair facilities in the mining area is insufficient, part of them can be newly built, expanded or rebuilt.

2.0.3 Public works such as power supply, heat supply, water supply, drainage, fire protection, communication, sewage treatment and off-site roads for electromechanical equipment repair facilities in the mining area should be centralized with other auxiliary enterprises in the mining area.

2.0.4 The tasks undertaken by the electromechanical equipment repair facilities in the mining area shall meet the following requirements.

1 Overhaul and general maintenance of mechanical and electrical equipment in mining areas;

2 Except for sporadic accessories, the new factory does not manufacture accessories in principle;

3 Except for U-shaped steel telescopic brackets and anchor rods, no other products are manufactured.

2.0.5 The scope of repair tasks for electromechanical equipment repair facilities in mining areas should be carried out in accordance with the provisions of Appendix A of this standard.

2.0.6 The calculation of the repair workload of mechanical and electrical equipment shall comply with the following regulations.

1 The amount of mechanical equipment repair should be calculated according to the number and quality of the equipment being repaired;

2 The amount of electrical equipment repair should be calculated according to the number, capacity and quality of the equipment;

3 The U-shaped steel telescopic support should be calculated according to the number and quality of the frames.

2.0.7 The annual repair task volume of electromechanical equipment repair facilities in the mining area shall be determined according to the number of equipment used (excluding the spare amount), and shall comply with the following regulations.

1 The repair amount of mechanical and electrical equipment shall be calculated according to the repair cycle and service life of the equipment;

2 The repair cycle and service life of mechanical equipment should be implemented in accordance with Appendix B of this standard;

3 The repair cycle and service life of electrical equipment should be implemented in accordance with Appendix C of this standard;

4. The manufacturing quantity of U-shaped steel telescopic support should be calculated according to the excavation rate of the mine and the service life of the support.

2.0.8 The working system of the electromechanical equipment repair facilities in the mining area shall comply with the following regulations.

1 One shift system should be used, and two shifts can be used when the repair volume is large;

2 Continuously operating equipment should adopt a three-shift system.

2.0.9 The design annual time base of process equipment for electromechanical equipment repair facilities in mining areas should be determined according to Table 2.0.9-1, and the design annual time base of workers should be determined according to Table 2.0.9-2.

3 Mechanical and electrical equipment repair facilities in mining area

3.1 General provisions

3.1.1 The workshop composition of the electromechanical equipment repair facilities in the mining area should be determined according to the type, specification and quantity of the electromechanical equipment in the mining area. Laboratory, warehouse, etc., and should meet the following requirements.

1 When the production tasks of electromechanical equipment repair facilities in the mining area are small, it is advisable to build a relatively centralized joint repair workshop;

2 When the annual overhaul of coal shearers and roadheaders in the mining area is relatively large, a mining machinery repair workshop can be set up separately;

3 When the annual repair volume of the hydraulic support in the mining area is relatively large, a repair workshop for the hydraulic support (including single hydraulic support) can be set up separately;

4 When the repair volume of trackless rubber-tired vehicles in the mining area is relatively large, a repair workshop for trackless rubber-tired vehicles in the mining area can be set up separately;

5 For workshops, warehouses and auxiliary buildings that are closely related to production and similar in nature, joint workshops, warehouses and multi-storey buildings should be built under the conditions of safety and sanitation.

3.1.2 The functional scope of each workshop of the electromechanical equipment repair facility in the mining area shall meet the following requirements.

1 The mine machinery repair workshop shall undertake the overhaul and general maintenance of machinery and equipment;

2 The mining machinery repair workshop shall undertake the overhaul and general

maintenance of coal shearers, roadheaders and shuttle cars;

3 The hydraulic support repair workshop shall undertake the overhaul and general overhaul of the hydraulic support and the overhaul of the single hydraulic prop;

Machine tool workers can be calculated as one person per shift per machine; auxiliary workers can be calculated as 20% to 30% of the total number of production workers (repair workers and machine tool workers).

3.4.3 The useable area index for overhaul of hydraulic supports should not exceed the provisions in Table 3.4.3-1, and the useable area index for overhaul of single hydraulic props should not exceed the provisions in Table 3.4.3-2.

3.4.4 A cleaning site shall be set up in the hydraulic support repair workshop, and an indoor cleaning room shall be set up in severe cold regions. Each cleaning station can be configured according to 1 to 3 people. The indoor cleaning room shall meet the following requirements.

1 The construction parameters of the cleaning room should be determined according to the model parameters of the largest bracket that can be cleaned, and the indoor net height should be greater than the height of the bracket when it is fully raised;

2 The slope of the ground should be 0.2% to 0.3%, and drainage ditches should be set.

3.5 Electrical Equipment Repair Workshop

3.5.1 The electrical equipment repair workshop is mainly responsible for major repairs of electrical equipment such as various types of motors, transformers, mobile substations, feeder switches, magnetic starters, comprehensive protection devices, electrical control devices, mine safety monitoring plug-ins, general maintenance of some equipment and electrical maintenance. test.

3.5.2 The selection of the test power supply and main devices of the electrical test station shall meet the following requirements.

When the annual repair capacity is 45MW and above, the low-voltage power supply of the electrical test station should use a dedicated transformer, and when it is less than 45MW, a dedicated power line should be installed;

2.The capacity of the induction voltage regulator shall be determined according to the largest electric motor with a lot of repairs in this workshop;

3 It is advisable to set up two sets of withstand voltage test devices for high pressure and low pressure. The high voltage test should be accompanied by a transformer oil insulation withstand voltage test.

3.5.3 Repair workers should be assigned according to the repair schedule and repair quantity of various electrical equipment. There should be 2 to 6 repair workers for electrical