

Materials List for:

# A Uniaxial Compression Experiment with CO<sub>2</sub>-Bearing Coal Using a Visualized and Constant-Volume Gas-Solid Coupling Test System

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## Materials

| Name  | Company  | Catalog Number | Comments  |
|---|--|----------------|---|
| 3Y-Leica MPV-SP photometer microphotometric system              | Leica, Germany                                   | M090063016     | Used for vitrinite reflectance measurement                      |
| Automatic isotherm adsorption instrument                        | BeiShiDe Instrument Technology (Beijing)CO.,Ltd. | 3H-2000PH      | Isothermal adsorption test                                      |
| Electro hydraulic servo universal testing machine               | Jinan Shidaishijin testing machine CO.,Ltd       | WDW-100EIII    | Used to provide axial pressure                                  |
| Gas pressure sensor   | Beijing Star Sensor Technology CO.,LTD           | CYYZ11         | Gas pressure monitoring   |
| Gas tank(carbon dioxide/helium)                                 | Heifei Henglong Gas.,Ltd                         |                | Gas resource  |
| high-speed camera   | Sony corporation                                 | FDR-AX30       | Image monitoring  |
| Incubator   | Yuyao YuanDong Digital Instrument Factory        | XGQ-2000       | Briquette drying  |
| jaw crusher   | Hebi Tianke Instrument CO.,Ltd                   | EP-2           | Coal grinding   |
| Manual pressure reducing valve                                  | Shanghai Saergen Instrument CO.,Ltd              | R41            | Outlet gas pressure adjustment                                  |
| Proximate Analyzer  | Changsha Kaiyuan Instrument CO.,Ltd              | 5E-MAG6700     | Coal industrial analysis  |
| Resistance strain gauge   | Jinan Sigmar Technology CO.,LTD                  | ASMB3-16/8     | Poisson ratio measurement                                       |
| Sieve shaker (6,16mesh)   | Hebi Tianguan Instrument CO.,Ltd                 | GZS-300        | Coal powder shelter   |
| Soft pipe   | Jinan Quanxing High pressure pipe CO.,Ltd        |                | Inner diameter=5 mm maximal pressure=30 MPa                     |
| Standard rock sample circumferential deformation test apparatus | Huainan Qingda Machinery CO.,Ltd                 |                | Circumferential deformation acquisition                         |
| Strain controlled direct shear apparatus                        | Beijing Aerospace Huayu Test Instrument CO.,LTD  | ZJ-4A          | Tensile strength, cohesion, internal friction angle measurement |
| Vaccum pump   | Fujiwara, Japan                                  | 750D           | Used to vaccumize the vessel                                    |
| Valve   | Jiangsu Subei Valve Co.,Ltd                      | S4 NS-MG16-MF1 | Gas seal  |
| Visual loading vessel   | Huainan Qingda Machinery CO.,Ltd                 |                | Instrument for sample loading and real-time monitoring          |