



产品类成果

## GB 系列止水材料及配套产品

### 【创新性】

针对高面板坝接缝止水需长期承受高水压、三向大变位作用的特点，发明了 GB 新型止水结构，开发了国际领先的具有优异流动止水性能的 GB 塑性填料以及 GB 复合三元乙丙盖板、潮湿面粘接剂、封边剂等配套产品，研制了可模拟 300m 高水压和三向大变位的止水仿真试验设备，建立了铜止水几何非线性大变形分析模型，提出了止水带量化设计方法。研制了 GB 塑性填料挤出机，形成了接缝表层止水一体化施工技术，开发了涂覆型柔性盖板止水技术，提高了面板接缝止水体系的安全性及可靠性。

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**获奖单位：**科海利

### 【影响力】

GB 系列止水材料产品成功应用于水布垭、洪家渡、紫坪铺、梨园、巴贡（马来西亚）、南俄二级（老挝）等国内外百余座面板坝工程，累计合同额超过 3 亿元。国内应用遍布 24 个省、市、自治区；其中，坝高 100m 以上面板坝 40 余座，占国内总数 60% 以上；国外远销南美（厄瓜多尔）、欧洲（苏格兰、马其顿）、非洲（苏丹）、东南亚（马来西亚、老挝）、西亚（伊朗）等地区。相关成果获国家科技进步二等奖 3 项，国际大坝委员会科技创新奖 1 项，省部级科技特等奖 2 项，一、二等奖 5 项，发明专利 5 项，列入技术标准 4 项。

## GB SERIES WATERSTOP MATERIALS AND AUXILIARY PRODUCTS

### 【Innovation】

IWHR-KHL has invented new GB waterstop structures, developed world-leading GB plastic filler and auxiliary products with excellent water sealing performance, such as GB composite EPDM cover plate, moist surface adhesive and edge sealing agent, developed waterstop test equipment that can simulate 300m high water pressure and three-dimensional large displacement, built geometric nonlinear deformation analysis models for copper waterstop, and put forward the quantitative design method for waterstop. It has also developed the GB plastic filler extruder, formed integrated construction technology for surface waterstop, and developed brush-coated flexible waterstop technology, thus improving the safety and reliability of the waterstop system of CFRD joints.

### 【Influence】

GB series waterstop materials have been successfully applied in more than 100 CFRDs at home and abroad, such as Shuibuya, Hongjiadu, Zipingpu, Liyuan, Bakun (Malaysia) and Nam Ngum II (Laos), with the total contract amount of over RMB 300 million. They are commonly used in 24 provinces, municipalities and autonomous regions of China. Among them, the number of CFRDs with the height of over 100m has reached more than 40, representing over 60% of the total number. In addition, the products have been applied in South America (Ecuador), Europe (Scotland and Macedonia), Africa (Sudan), Southeast Asia (Malaysia and Laos), West Asia (Iran) and other regions. Relevant achievements have won three second prizes of the National Science and Technology Progress Award, one technical innovation award conferred by the International Commission on Large Dams (ICOLD), two special science and technology awards at provincial and ministerial levels and five first or second prizes, and obtained five invention patents and been adopted in four technical standards.

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