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Development of MgB2 superconducting wires at Sam Dong Co., Ltd.

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MgB₂ has been regarded as the most attractive candidate for the next-generation superconducting material due to its high critical temperature and low material cost. Sam Dong Co., Ltd., Korea, is a supplier that produces a variety of the MgB₂ superconducting conductors to meet customers'requirements over the past 6 years. Recently, we have increased the area fraction of multifilamentary MgB₂ wire up to 20% by controlling the particle size distribution and powder densification, resulting in high critical current. In addition, carbon doping further improved the critical current density in a high magnetic field. The critical current densities were estimated to be 120,000 A/cm² at 6 T at 4.2 K and 16,000 A/cm² at 3 T and 20 K, respectively. In this conference, we will introduce and discuss a newly developed MgB₂ wire of Sam Dong Co., Ltd.

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