HIGH-TEMPERATURE SUPERCONDUCTOR GUIDE

Fujikura

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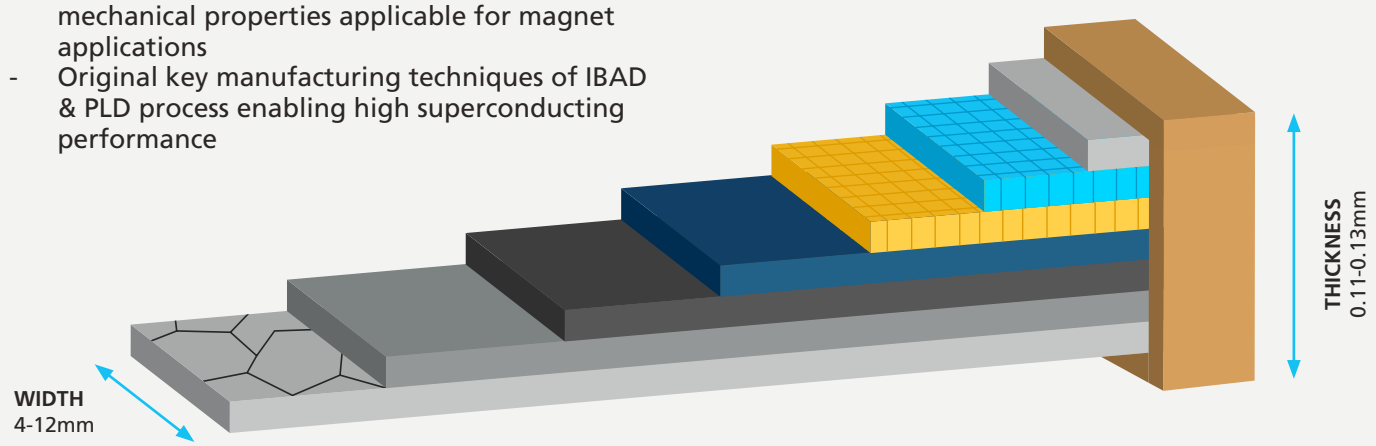
RE- BASED HIGH- TEMPERATURE SUPERCONDUCTOR

CHARACTERISTIC FEATURE

- Superior in-field critical current and excellent mechanical properties applicable for magnet applications
- Original key manufacturing techniques of IBAD & PLD process enabling high superconducting performance

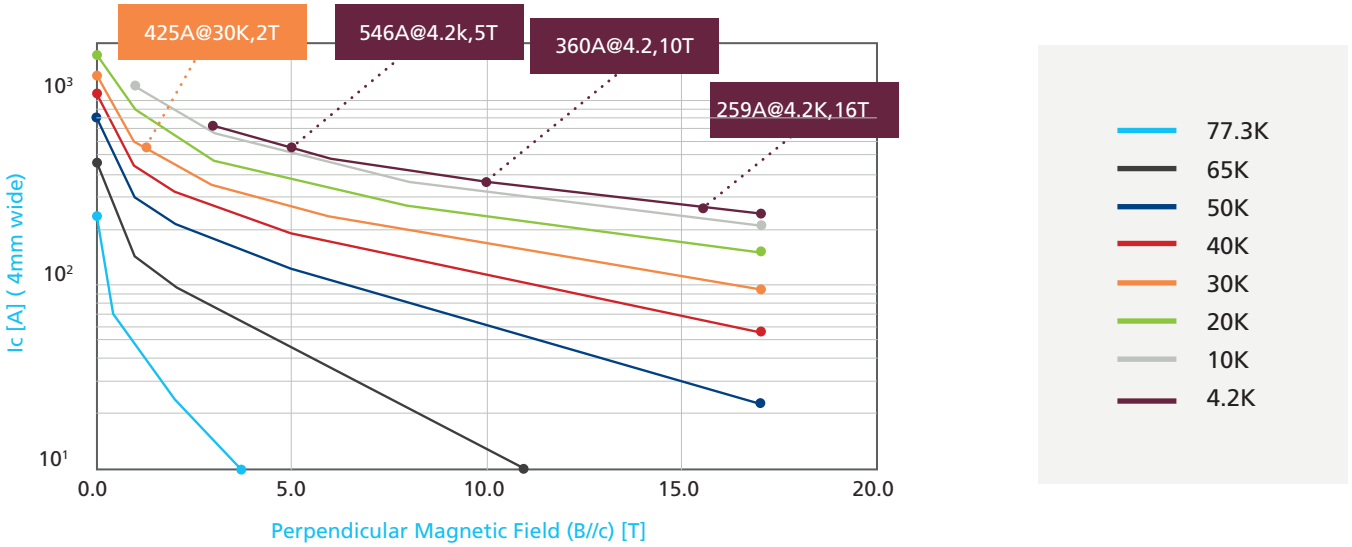


Substrate [Hastelloy®] 75/50 μm
Buffer Layer
Buffer Layer
Buffer Layer
Buffer Layer MgO
Superconducting Layer
Protection Layer [Ag] 2 μm
Stabilizer [Cu Plating] 20 μm

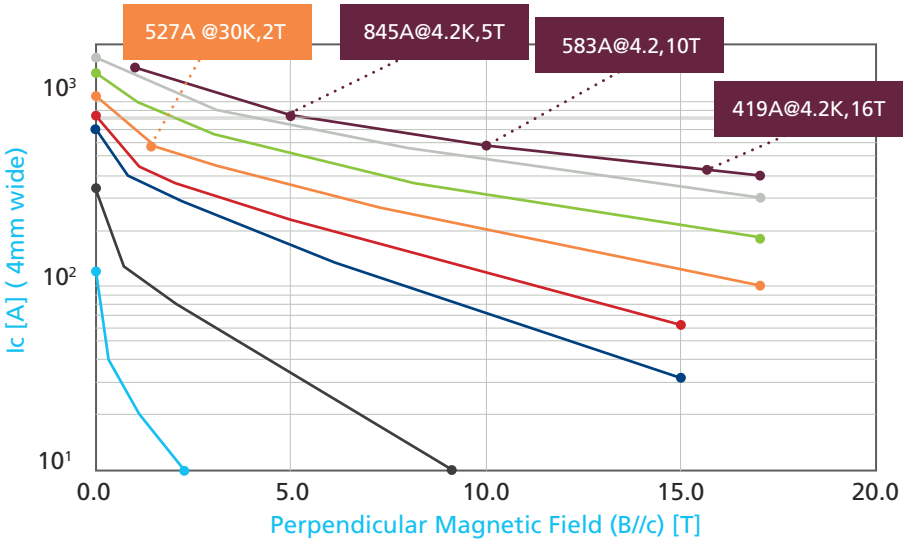
Products	Width (mm)	Thickness (mm)	Substrate (μm)	Stabilizer (μm)	Critical Current (A)	
					77K, S.F.	20K, 5T*3
FYSC-SCH04	4	0.13	75	20	≥165	368
FYSC-SCH12	12	0.13	75	20	≥550	-
FYSC-512 * 1	12	0.08	75	-	≥550	-
FESC-SCH04 * 2	4	0.11	50	20	≥85	514
FESC-SCH12 * 2	12	0.11	50	20	≥250	-

*1 HTS wire without copper stabilizer is available in only 12mm wide for current lead applications.
*2 Artificial pinning specification for use at low temperature and high magnetic field
*3 Ic@20K, ST is a reference value and no guarantee of the actual performance.

TYPICAL IN-FIELD IC PERFORMANCE

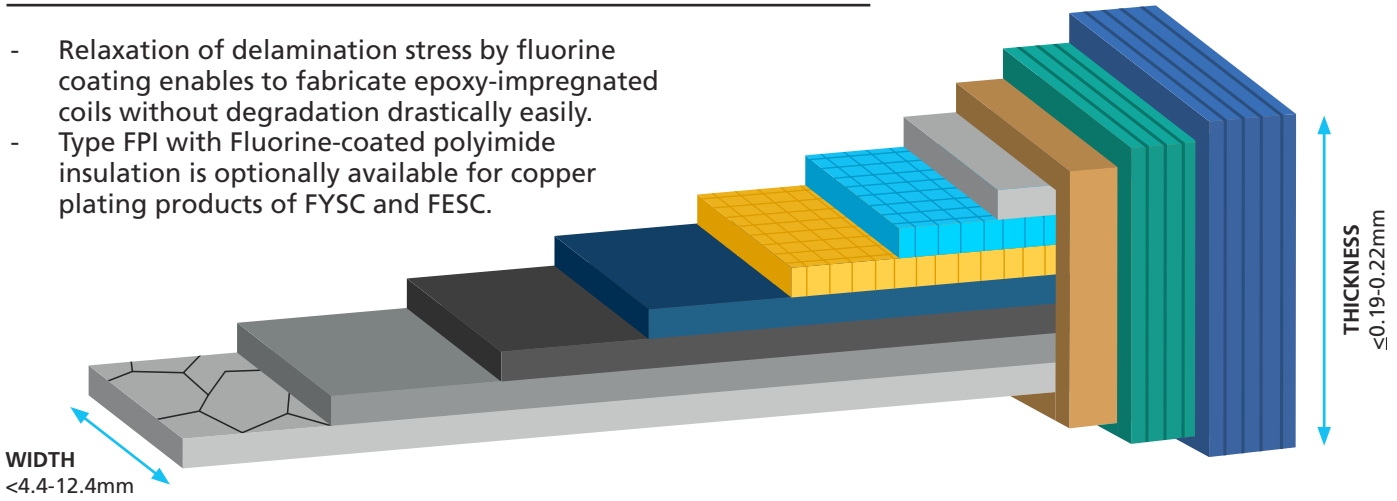


PROSPECTIVE IN-FIELD IC PERFORMANCE WITH AP



DEGRADATION FREE 2G HTS : TYPE FPI

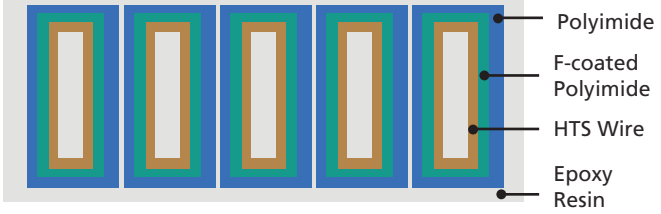
- Relaxation of delamination stress by fluorine coating enables to fabricate epoxy-impregnated coils without degradation drastically easily.
- Type FPI with Fluorine-coated polyimide insulation is optionally available for copper plating products of FYSC and FESC.



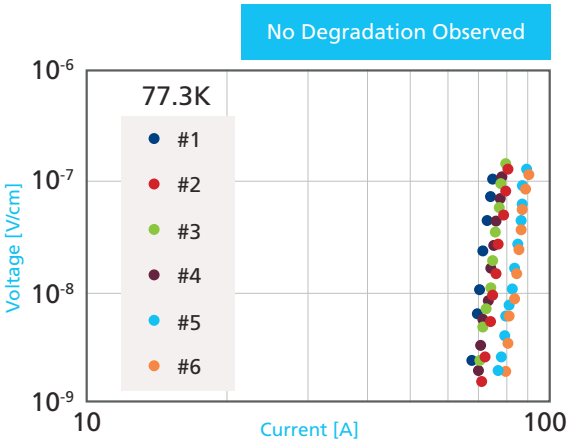
Substrate [Hastelloy®] 75/50μm	Buffer Layer	Buffer Layer	Buffer Layer	Buffer Layer MgO,
Superconducting Layer	Protection Layer [Ag] 2μm	Stabilizer [Cu Plating] 20μm	Inner insulation [F-coated polyimide]15μm	Outer insulation [Polyimide] 12.5μm

PROVEN EPOXY IMPREGNATED COIL

Cross section of Pancake Coil



Double Pancake Coil with Vacuum Pressure Impregnation



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