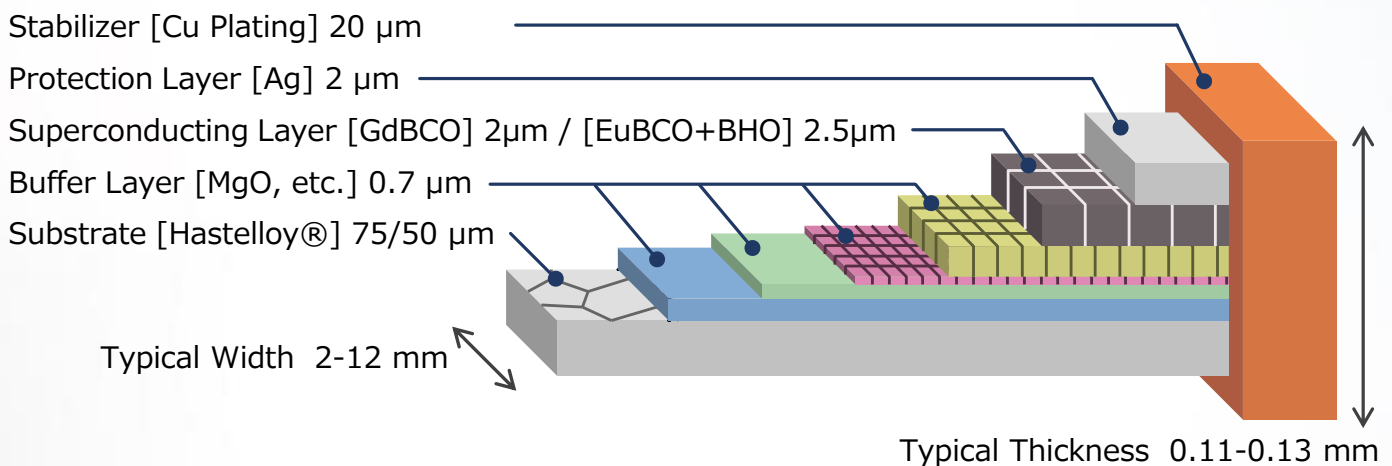


■ Characteristic Feature

- 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



■ Schematic of Typical specification



■ Typical Specifications

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	1,104
FYSC-S12 ^{*1}	12	0.08	75	—	≥ 550	—
FESC-SCH02 ^{*2}	2	0.11	50	20	≥ 30	257
FESC-SCH03 ^{*2}	3	0.11	50	20	≥ 63	497
FESC-SCH04 ^{*2}	4	0.11	50	20	≥ 85	663
FESC-SCH12 ^{*2}	12	0.11	50	20	≥ 250	1,990
FESC-S12 ^{*1,2}	12	0.06	50	—	≥ 250	—

*1 Non-copper stabilizer specification is available in typically 12mm-wide for current lead or low thermal conducting applications.

*2 Artificial pinning specification is mainly for use in magnet applications at low temperature and high magnetic field.

*3 $I_c@20K, 5T$ is a reference value and no guarantee of the actual performance.

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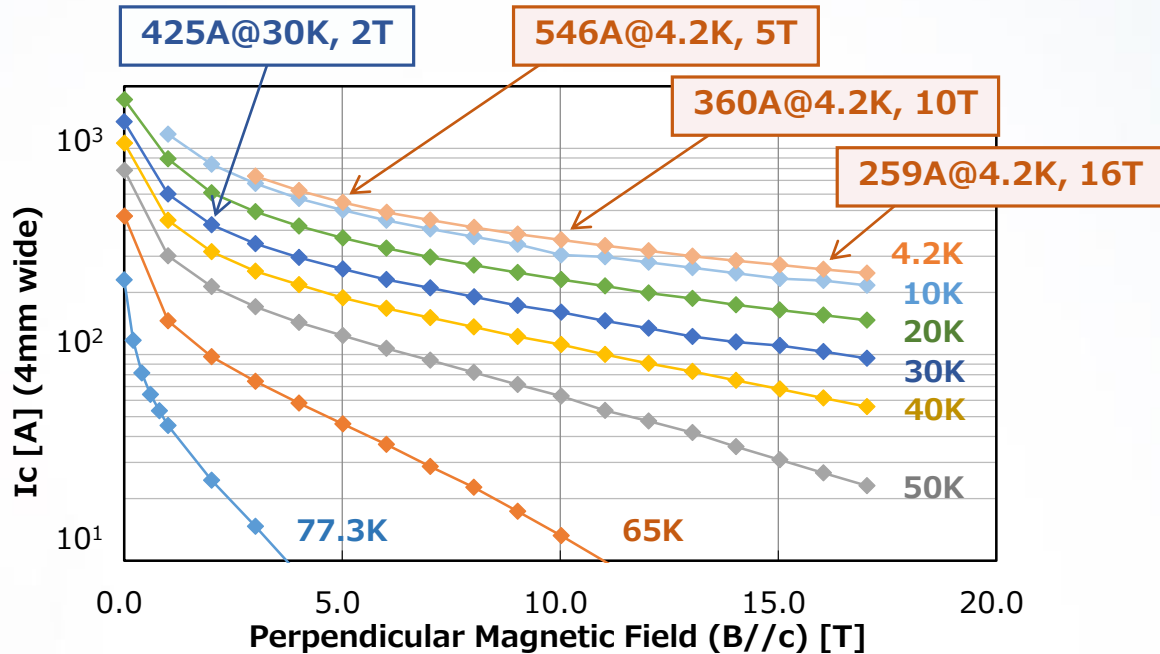
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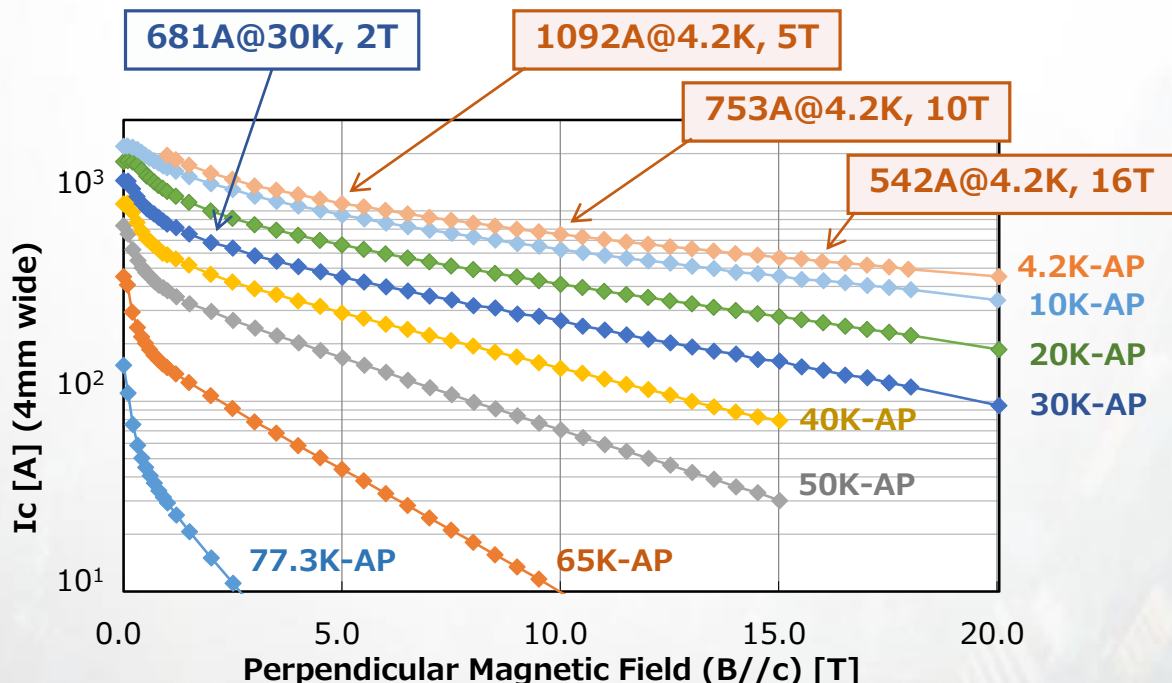
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■ Typical In-field I_c Performance

Non-artificial pinning: FYSC series



Artificial pinning type: FESC series



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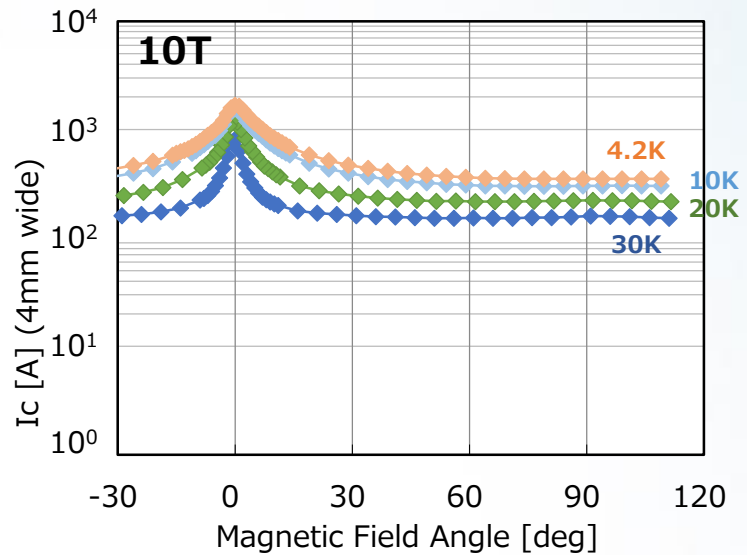
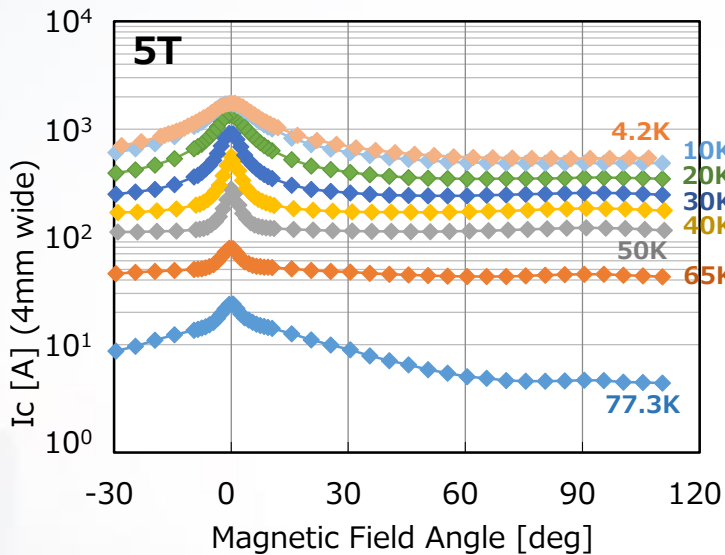
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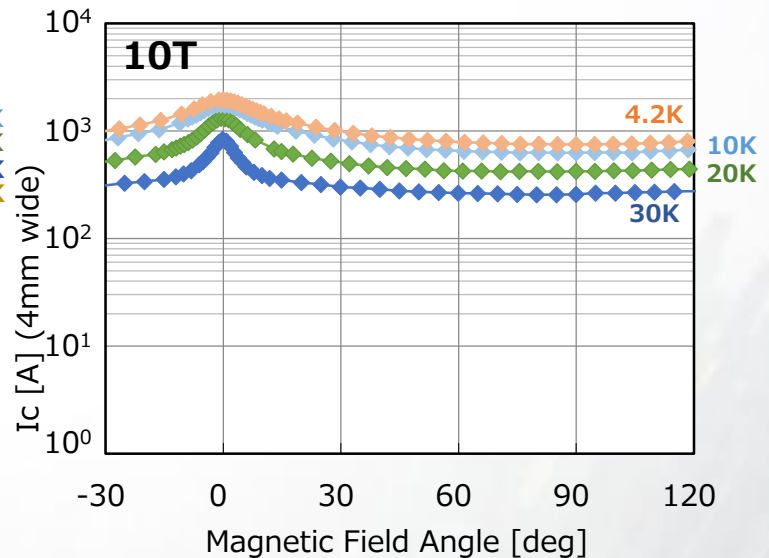
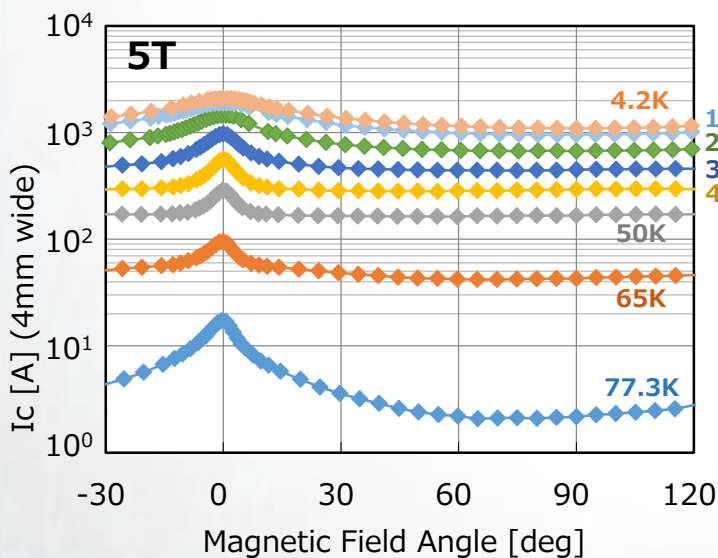
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■ Typical Field Angle Dependence

Non-artificial pinning: FYSC series



Artificial pinning type: FESC series



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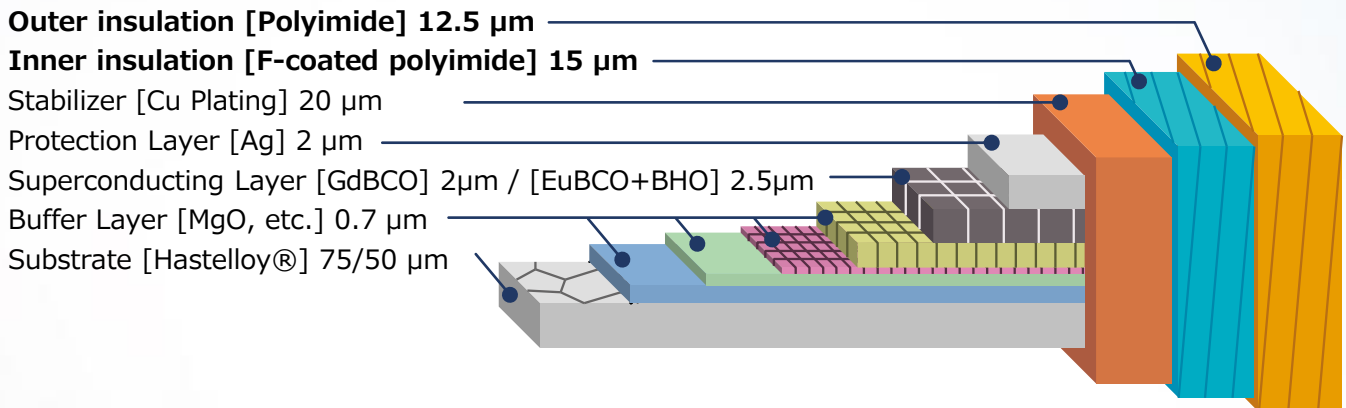
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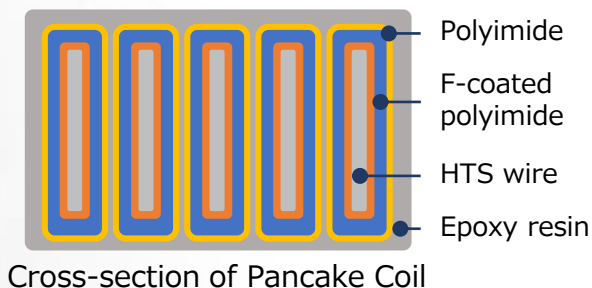
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■ Degradation Free 2G HTS : Type FPI

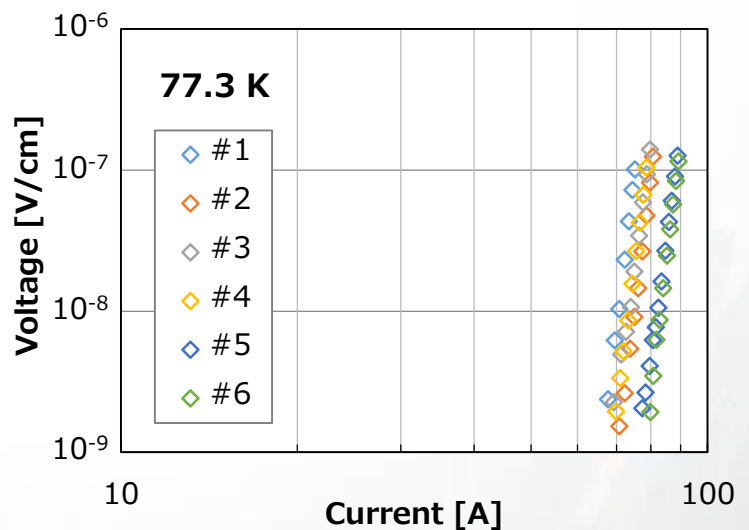
- Relaxation of delamination stress by fluorine coating enables to fabricate epoxy-impregnated coils without degradation drastically easily.
- Type FPI with Fluorine-coated polyimide insulation is optionally available for copper plating products of FYSC and FESC.



■ Proven Epoxy Impregnated Coil



Double Pancake Coil with Vacuum Pressure Impregnation



No Degradation Observed

Ref.) IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY, VOL. 26, NO. 4, JUNE 2016

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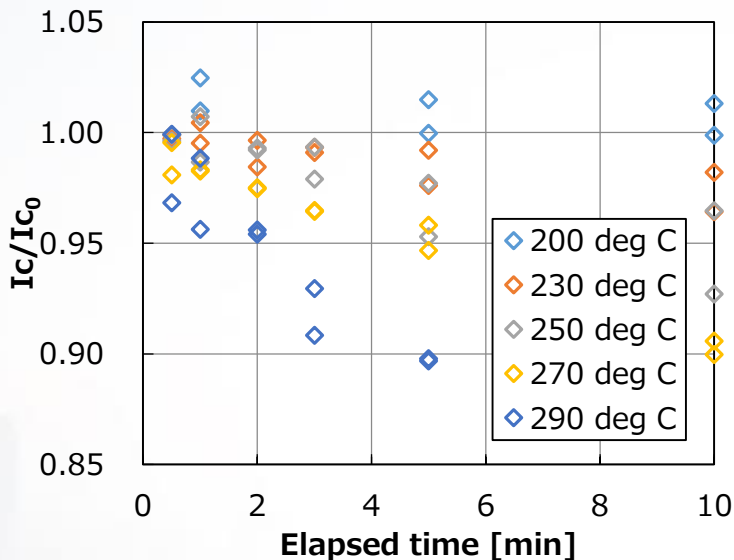
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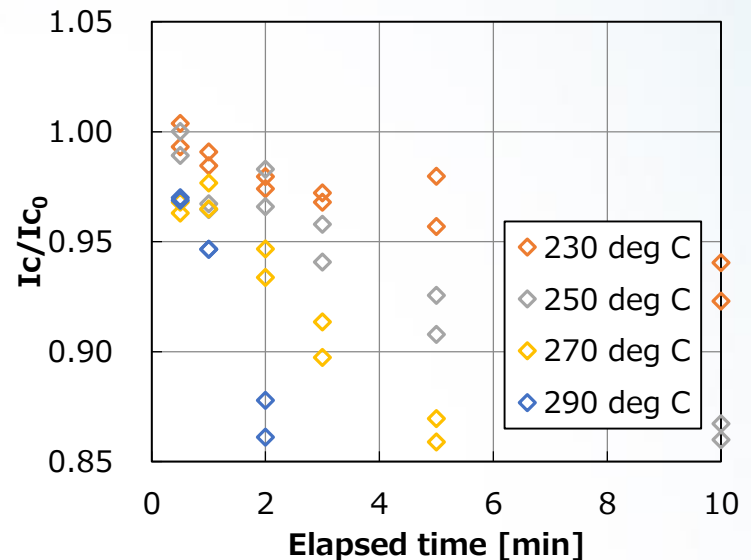
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■ Note for Handling at Heating

Non-artificial pinning: FYSC series



Artificial pinning type: FESC series



- It shall be generally recommendable to heat below 200 degrees C within few minutes. Heating over 200 degrees C could be also acceptable with full attentions to heating condition.
- These conditions shall not be necessarily applicable to HTS tapes with silver protection layer due to soldering erosion of silver layer.

■ Recommendable Soldering Condition

- It shall be generally recommendable to use solders with low melting point and to heat below 200 degrees C within few minutes. In case it would be difficult to melt solder, heating over 200 deg C could be also acceptable with full attentions.
- Pb-free solder could be available with full attention to heating condition. Other solders could be also available depending on application designs or environmental regulation.
- Sn-Bi based or more preferably Sn-Bi-Ag based solder would be recommendable for HTS tapes with silver protection layer such as FYSC-S or FESC-S series. Especially solder including Ag is relatively easy to solder silver protection layer.

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