Arisawa's Products for superconductive field

1. Arisawa's core technologies and products
2. Business achievement of insulation materials (Nuclear Fusion, Medical, and Proton Accelerator)
3. Summary

Dreams to Reality

Arisawa's technological strength turns dreams into reality.

Arisawa Mfg., Co., Ltd
Composite R&D Group leader
Masaaki Hirai

1. Arisawa's core technologies and products

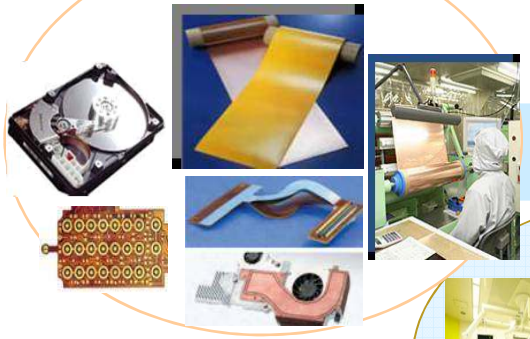
Core technology

1. Weaving
- Glass cloth
- Carbon cloth
- Glass/Carbon cloth
- Honeycomb Weaving

2. Coating
- Wet prepreg (solvent)
- Dry prepreg (hot melt)
- Film prepreg

3. Molding
- FW (Filament Winding)
- Pultrusion (in group company)
- Press Laminate
- Autoclave Molding
- UV (ultra violet) curing

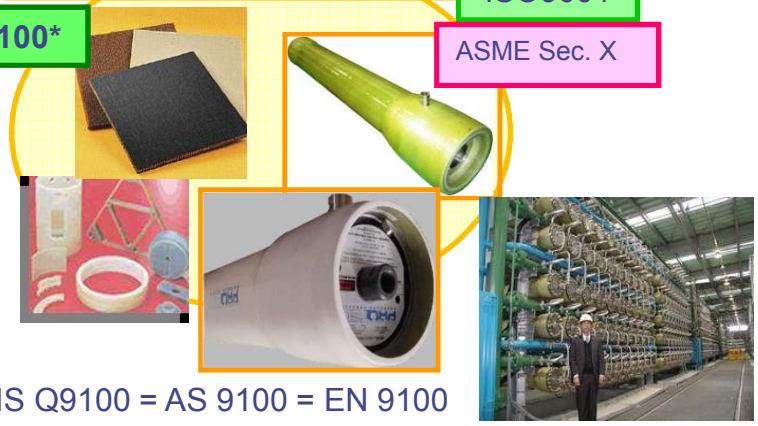
Electronic Materials ISO9001



Optical Materials ISO9001

Composite and Insulation Materials ISO9001

JIS Q9100* ASME Sec. X



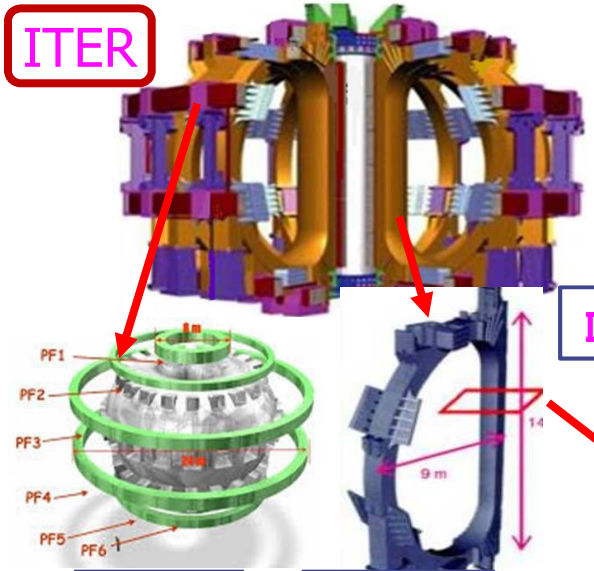
* JIS Q9100 = AS 9100 = EN 9100

2. Business achievement for Superconductive field
(Nuclear Fusion, Medical, and Proton Accelerator)

Facility		Application	Material used, Composition
Nuclear Fusion	ITER	Insulation cover material for poloidal & toroidal coil	Insulation tape which S-glass cloth laminated by polyimide film using cyanate-ester resin.
Medical	KIT; Kanazawa Institute of Technology	MEG (MAGNETOENCEPHALOGRAPHY) Using SQUID*	Container of GFRP(Dewar) for Liquid-Helium storage.

*Superconducting QUantum Interference Device

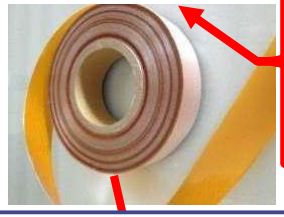
ITER



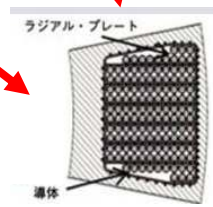
PF coil　TF coil

Figure by ITER

Product



Insulation cover



S-glass cloth
Resin
Polyimide Film

Winding to coil by our products

Dewar

MEG

Photo by KIT

Proton Accelerator

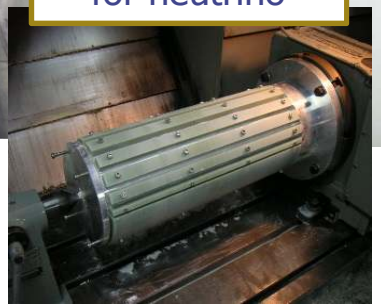
Business achievement of insulation materials

Facility		Application	Material used, Composition
Proton Accelerator	The Large Hadron Collider (LHC) to CERN	The ATLAS to Detect the Particle Superconducting quadrupole magnet(MQX-A)	・Polyimide film prepreg tape ・GFRP(laminated board)
	Big RIPS to Riken	Insulating cover material for super conducting detector coils	・GU Prepreg tape (Glass cloth PP/polyimide film) ・SI(super insulating film)
	J-PARC	High-intensity neutrino beams	・GUG212Dry tape
		Japan Proton Accelerator Research Complex	・S glass cloth/ BT prepreg tape

LHC: Superconductive 4 pole magnet coil for collision diversion

J-PARC:Beam line

Wedge of GFRP for neutrino

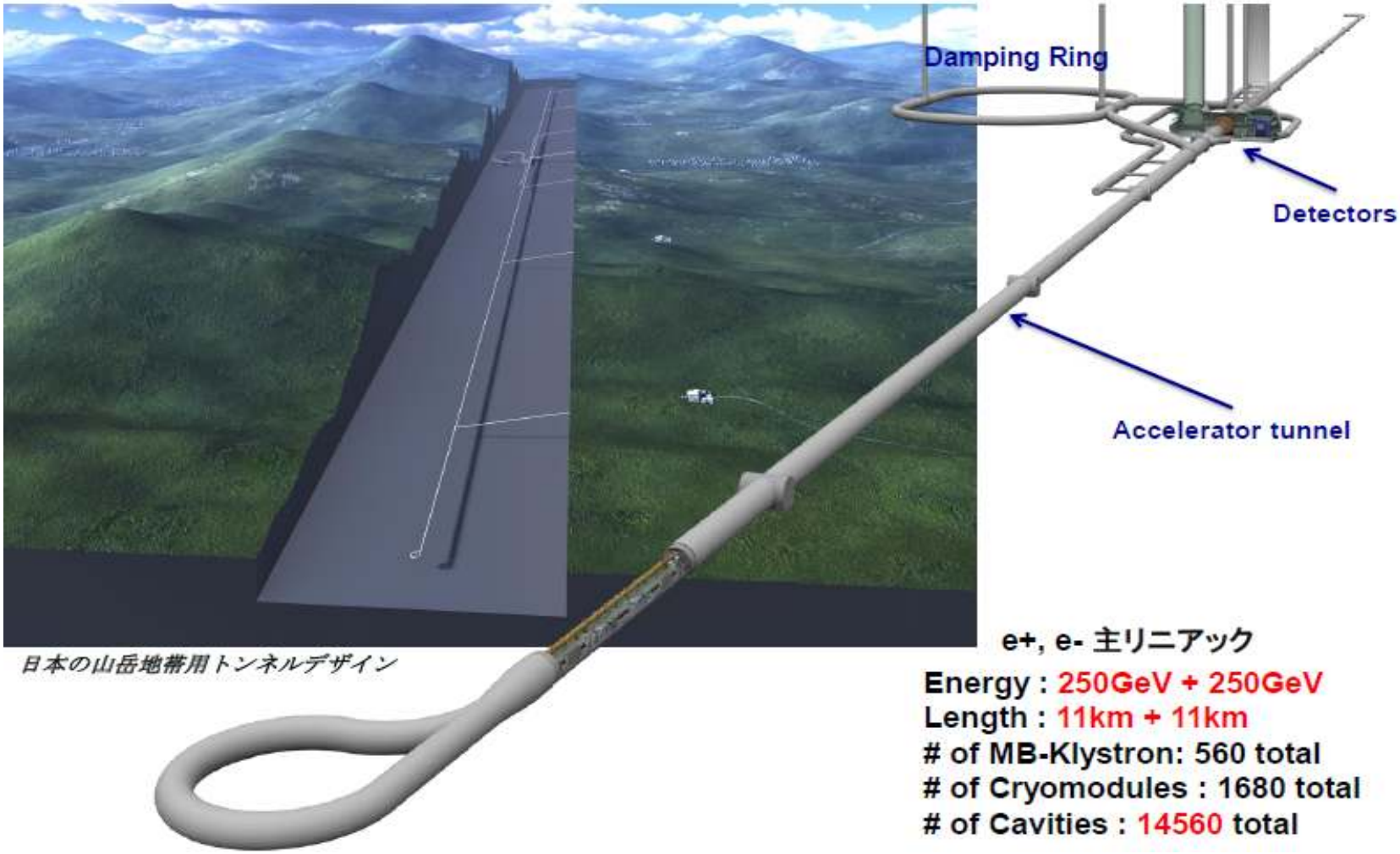


SMC mold by phenol resin for neutrino

After 2000 year, we achieved a requirement of resistance radiation

Photo by KEK

ILC ; International Linear Collider



e+, e- 主リニアック

Energy : 250GeV + 250GeV
Length : 11km + 11km
# of MB-Klystron: 560 total
# of Cryomodules : 1680 total
# of Cavities : 14560 total

Let's invite ILC to JAPAN!

Figure by KEK

3. Summary

- **Arisawa has 3 key technologies "Weaving", "Coating" and "Molding"**
- **Arisawa produces "Glass cloth", "Prepregs", and so on, for insulation materials using the technologies**
- **Arisawa has many business achievements in Superconductive filed**
  - **Insulation materials for Nuclear Fusion, Medical, and Proton Accelerator**
- **Arisawa has capability to supply insulation materials for ILC**
  - **Let's invite ILC to Japan**

Arisawa continues to supply various materials for Superconductive field using our key technologies!!

Thank you for your attention

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