

# Introduction of Hybrid Yarn “DUALON”

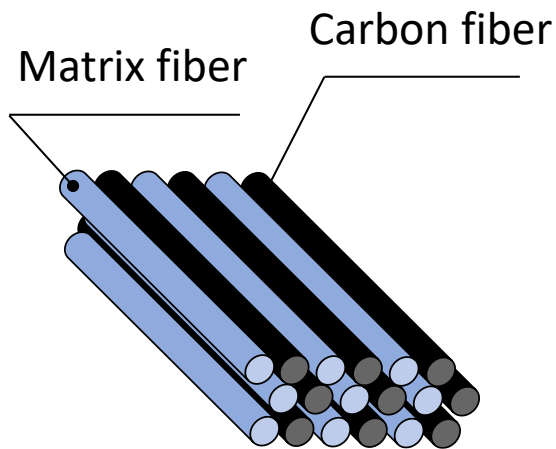
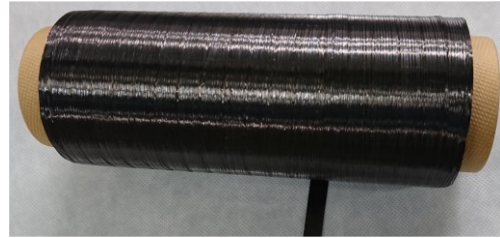
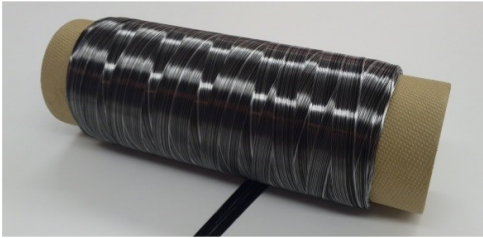


*KAJI GROUP*

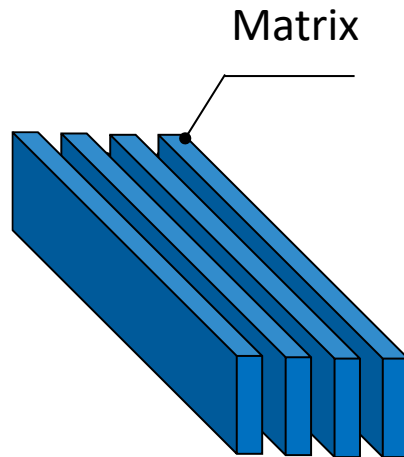
Kajirene Inc. R&D department Toshihiro MOTOCHIKA

E-mail: [t.motochika@kajigroup.co.jp](mailto:t.motochika@kajigroup.co.jp)

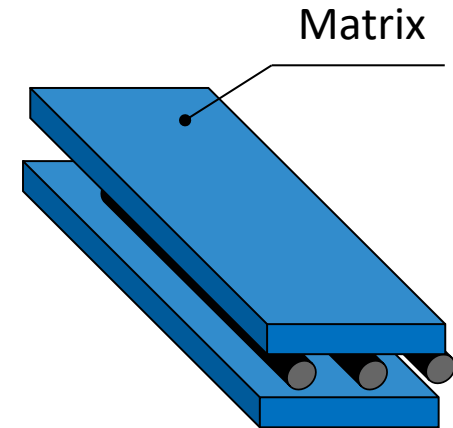
# Variations of DUALON



DRY  
(Fibrous type)



SIS  
(Semi-impregnated type)



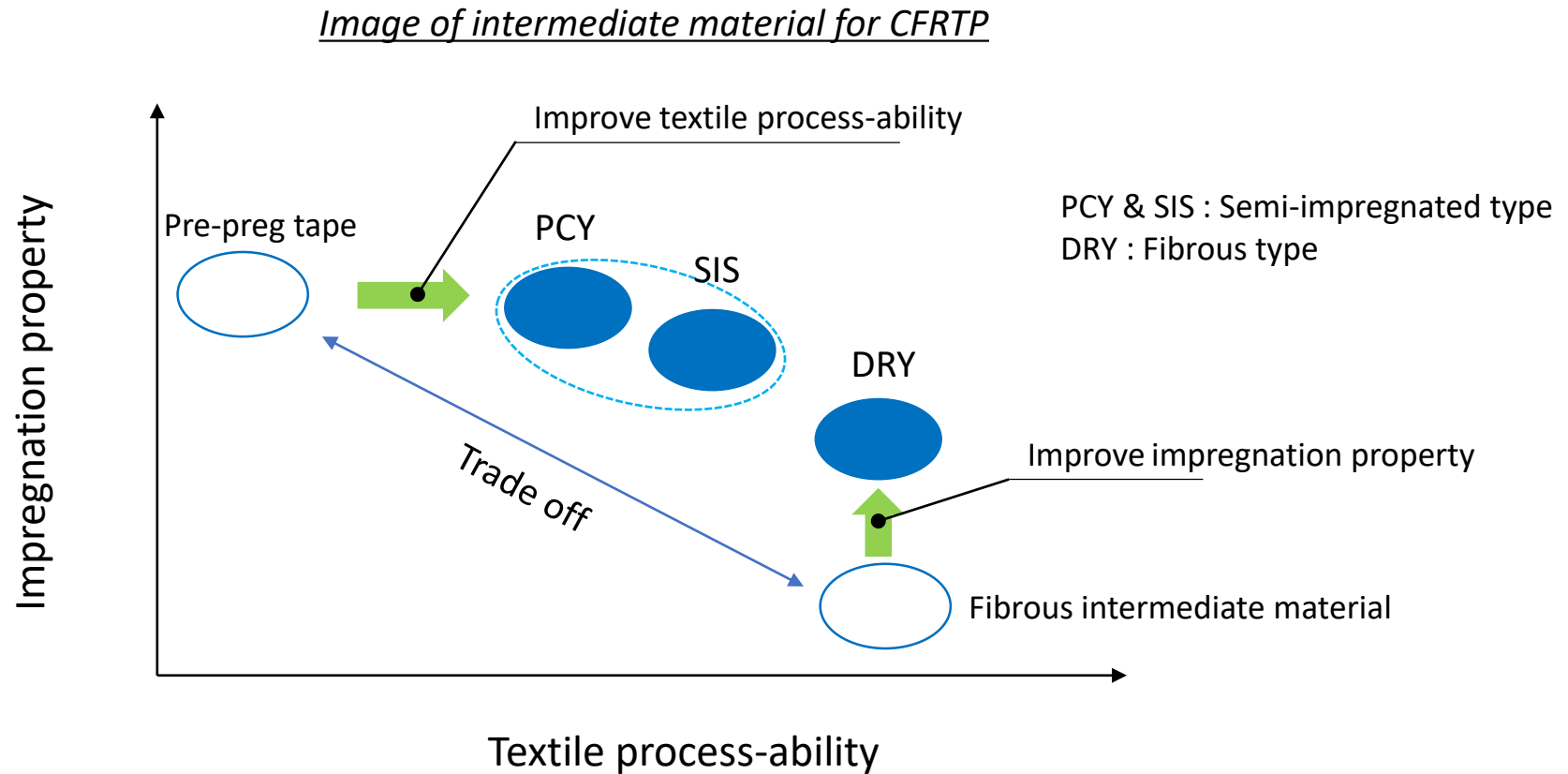
PCY  
(Semi-impregnated type)

We can provide 3 types of Hybrid Yarns.

DRY is commingled yarn with high-impregnation property.

SIS is foldable semi-impregnated tape and suitable for Tailored Fiber Placement process.

PCY is soft semi-impregnated tape and suitable for weaving, braiding and so on.



Generally, impregnation property and textile process-ability are a trade off.

DUALON has succeeded in achieving both of these properties with our proprietary technology.

- High impregnation property and textile workability.
- It is easy to produce any Vf and keep it.
- Various TP is usable (ex. PP, PA, **MXD10**, PC, PEEK, PEI etc...).
- Various fineness of carbon fiber can be used as reinforcing.



Our standard “DUALON” consists of T700SC-12k and MXD10.

MXD10 (LEXTER®, Mitsubishi Gas Chemical co., Ltd.) is half bio-based polyamide with superior properties.

	Density	Tm, °C	Tg, °C	Strength, MPa	Modulus, GPa	Moisture absorbing, %
MXD10	1.12	215	63	90	3.1	0.8
PA6	1.12	220	48	62	2.6	6.3

These are typical value, not the standard values.

# Applications of DUALON

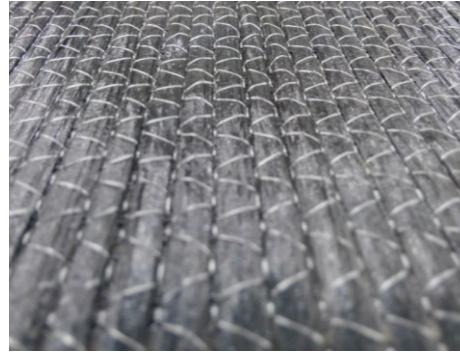
KAJI GROUP



Woven fabric



In lay knitted fabric



Non crimp-fabric



Braided fabric



Tailored fiber-placement (TFP)



Filament winding



Tailored fiber-placement (TFP)



Woven fabric

DUALON enables your fabrications of various textile TP composites!