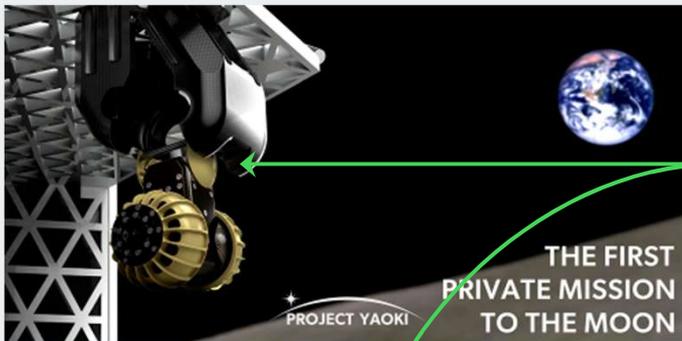


# Moon Robot "YAOKI"

March 7<sup>th</sup>, 2025

World's first photograph taken inside a lunar south pole crater



YAOKI's body & deployer (case)  
Cyanate ester resin "#290"  
CFRP

YAOKI's tires  
PAI (Super engineering plastic  
"Polyamideimide")

YAOKI's lens  
Anti-Regolith coating agent



# Cyanate ester resin prepreg #290

## Features

- Heat resistant of over 260°C
- Combine high heat resistance and high impact resistance (toughness)
- Excellent composite mechanical properties
- Low water absorption
- Excellent dielectric properties
- Good tack and drape-abilities for excellent formability
- Excellent shelf stability  
(can be stored for 30 days at 50% at 23°C)

Resin type	Tg	Toughness	Moldability	Life
#290 Cyanate ester	270°C	◎	◎	◎
High heat resistant Epoxy	180 – 220°C	○	○	○
BMI	300°C	×	×	○

- Can be cured in a short time  
150°C x 2 hours or 180°C x 2 hours (in autoclave)
- Possible to post-cure in freestanding environment  
135°C x 2 hours (in autoclave)  
+ 250°C x 2 hours (Post-cure)

Item		Unit	Value
Tg	E'onset	°C	271
	tanδmax	°C	292
Dielectric constant	at 10GHz	F/m-1	3
Dissipation tangent	at 10GHz	-	0.01
Density		g/cm3	1.23

## Application Examples

- Low moisture absorption, Less cryogenic micro-cracks, Low dielectric constant  
⇒ **Space applications**
- High heat resistance  
⇒ **Aircraft, Automobiles, Industrial components**
- Low Dielectric Constant  
⇒ **Electrical and Electronic Components**