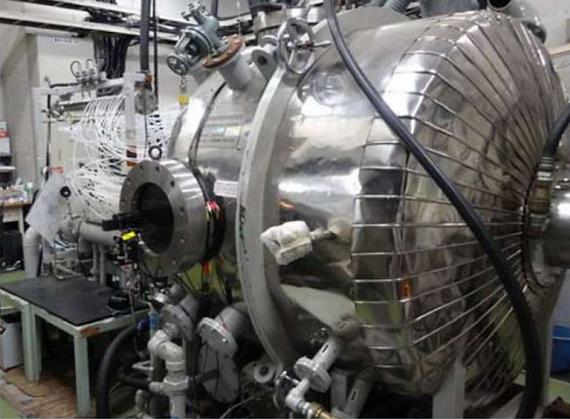


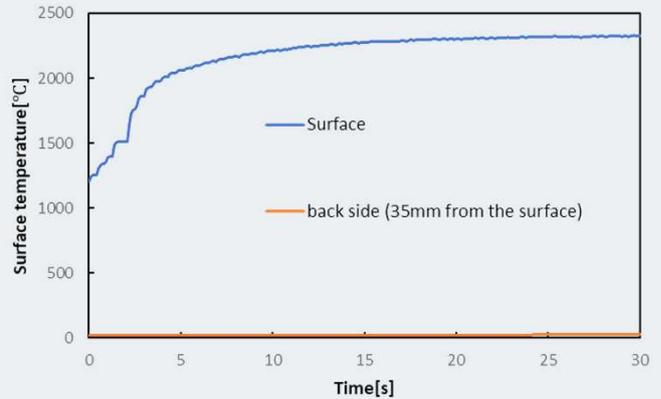
# Phenolic-based CFRP for Ablation Applications

Application: Heat-resistant material for spacecraft Thermal Protection System (TPS)

Arc heating wind tunnel test machine (JAXA)



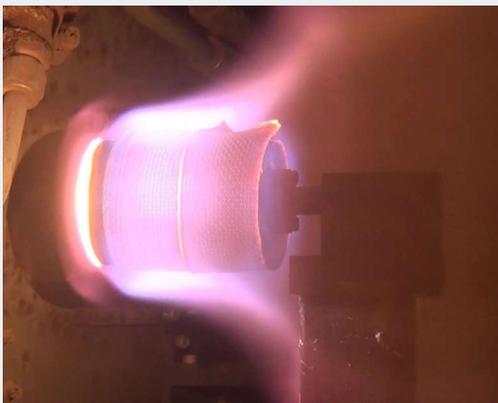
Surface and Back side Temperature valuation



## Test Condition /Result

Sample Density	Test Condition		Temperature		Thickness		
	Heat Rate	Distance	Surface (MAX)	Backside (MAX)	Before Test	After Test	$\Delta$
g/cm <sup>3</sup>	MW/m <sup>2</sup>	mm	°C	°C	Mm	mm	mm
1.54	3.6	100	2329	166	35.41	33.35	-2.06

## Test Specimen Appearance



Heat Rate	Before Test	After Test
3.6 MW/m <sup>2</sup>		

The results of the Arc heating wind tunnel test on the SMC pitch-based Phenolic CFRP confirmed that it possesses sufficient heat resistance for a 30-second heating test.