



PlasmaTact

Atmospheric pressure gas plasma device 「PLT-50」



PlasmaTact:

PlasmaTact generates atmospheric pressure plasma with argon gas.
Plasma treatment allows surface modification with irradiating argon gas plasma.

Before

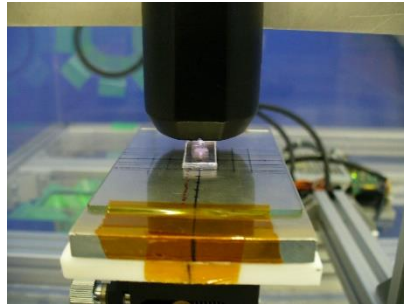


Hydrophobic surface

PC: Polycarbonate (Thermoplastic resin)



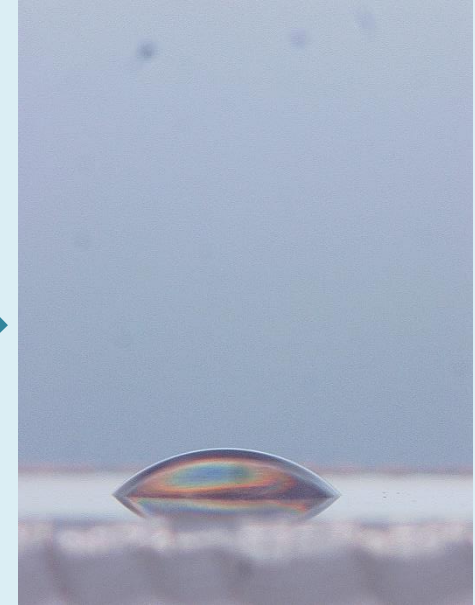
PlasmaTact



Plasma treatment



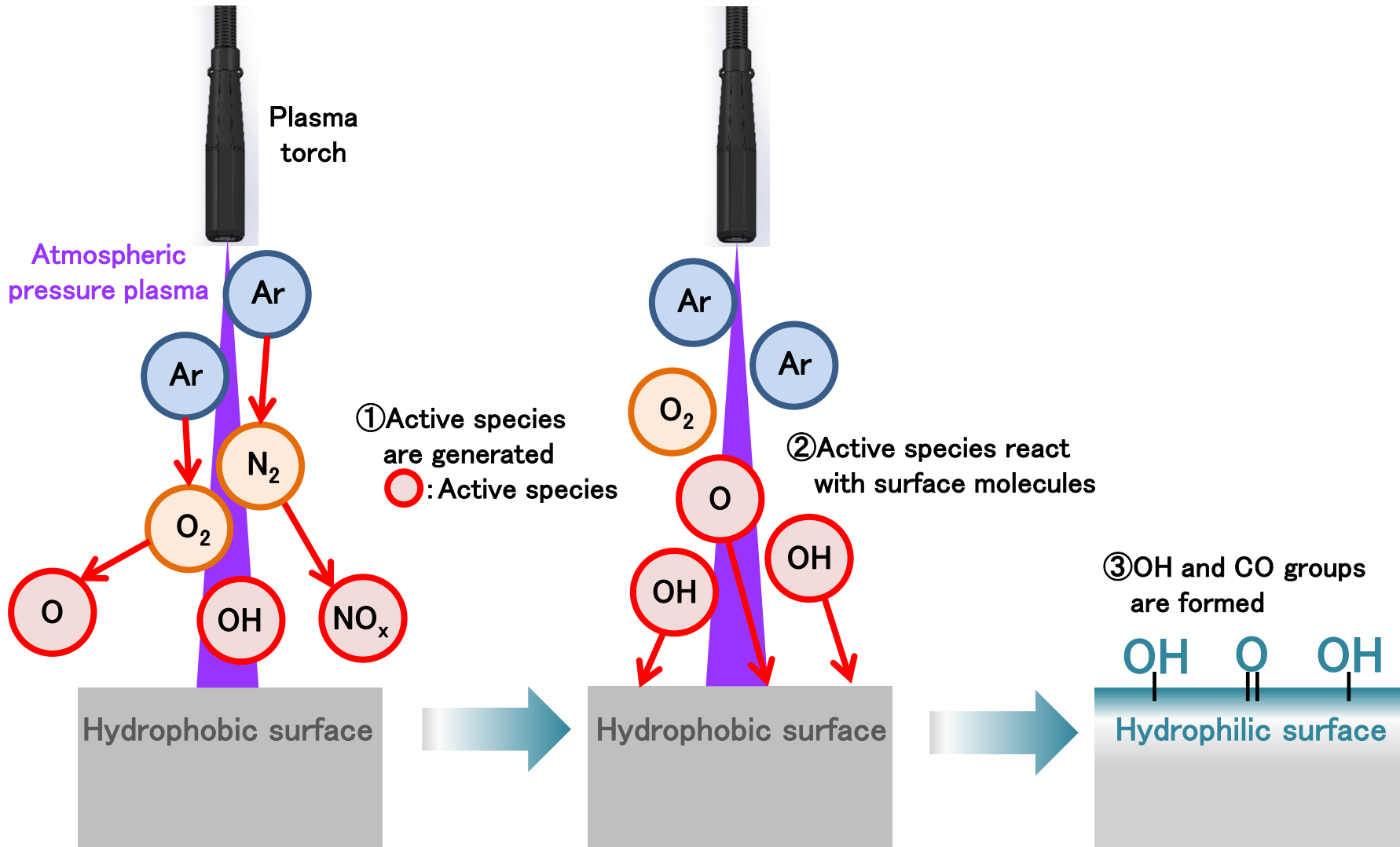
After



Hydrophilic surface

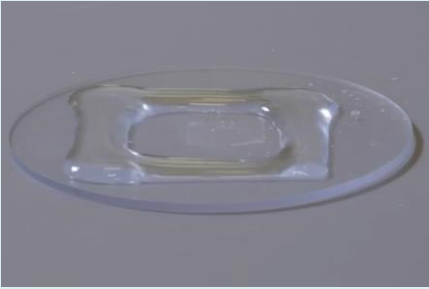
Condition : 50W, Ar 10slm

Plasma treatment allows **surface modification**



Introduction of functional group enables **hydrophilic** surface

Thermoplastic resin

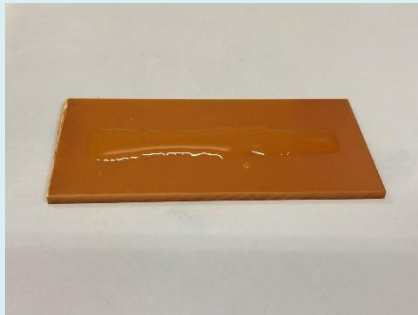


PlasmaTact

Composite



Thermosetting resin



Metal



Glass



PlasmaTact allows to make various types of surface **hydrophilic**

Example of resin surface modification

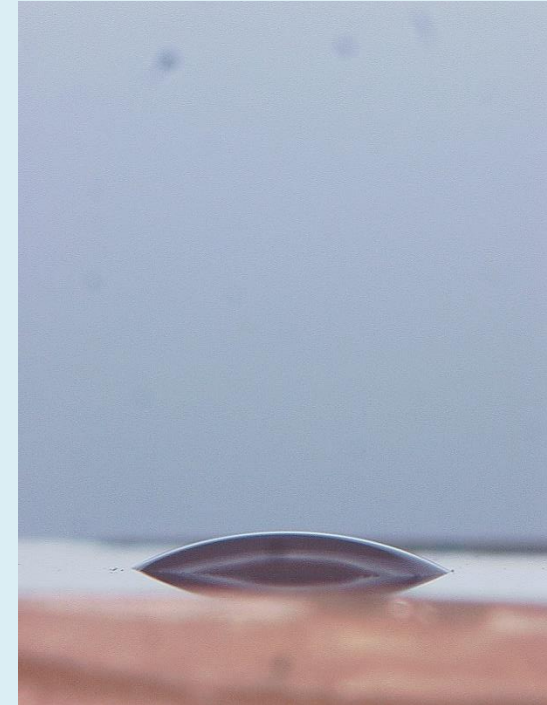
Before



Plasma treatment



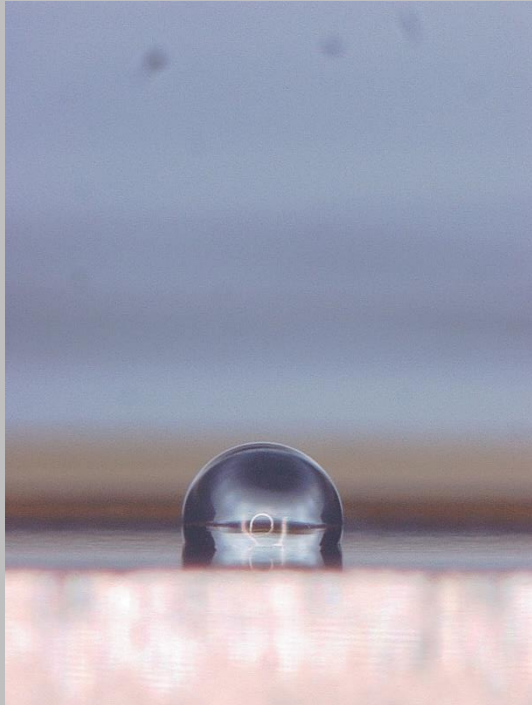
After



PEEK: Polyetheretherketone (Thermoplastic resin)
Condition : 50W、Ar 10slm

Example of metal surface modification

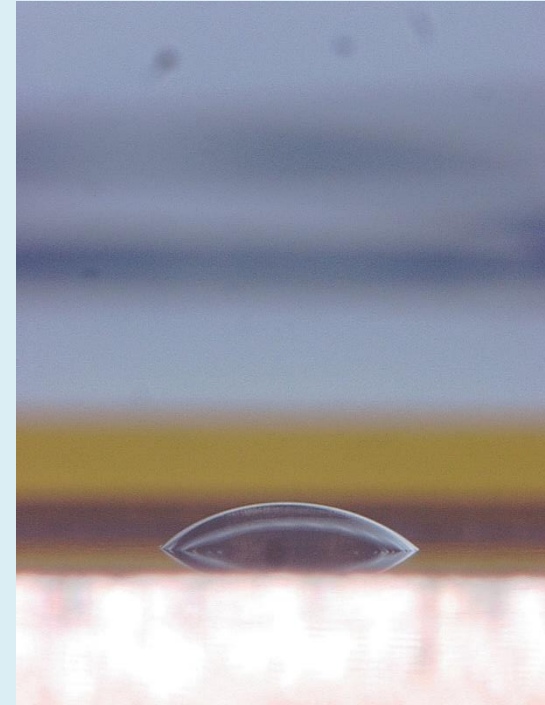
Before



Plasma treatment

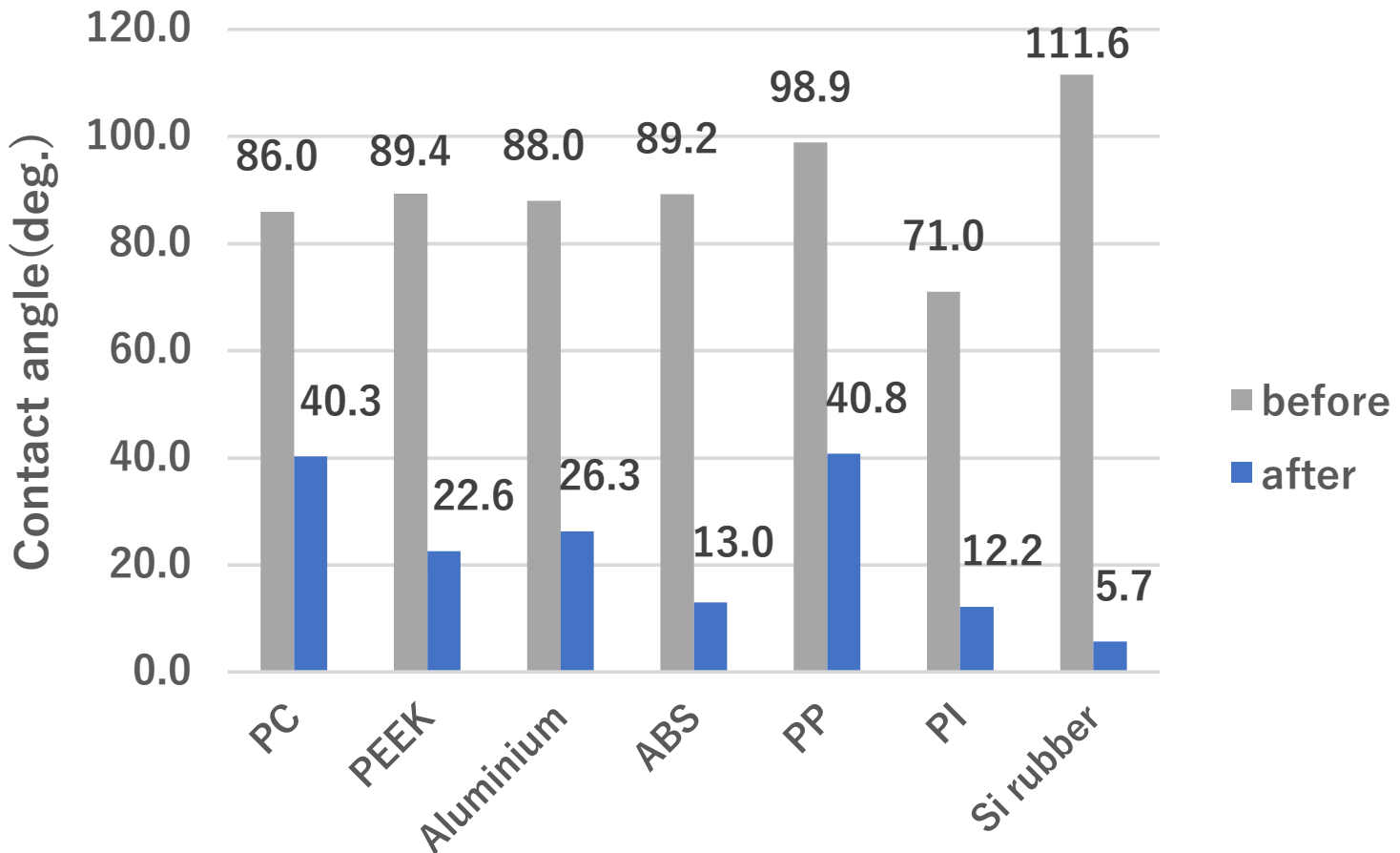


After



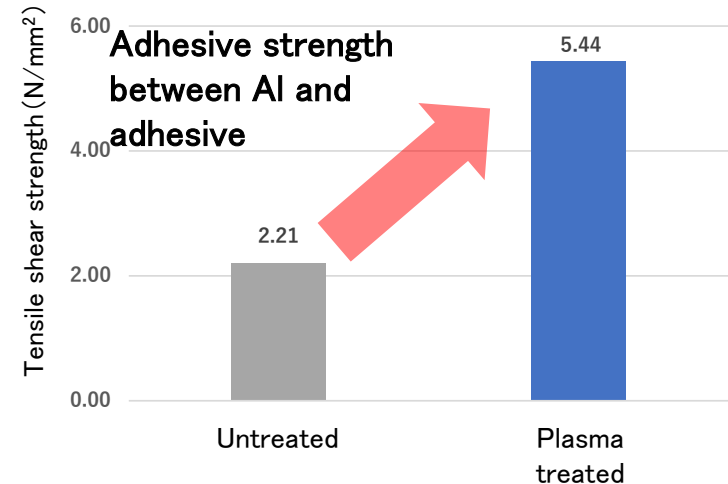
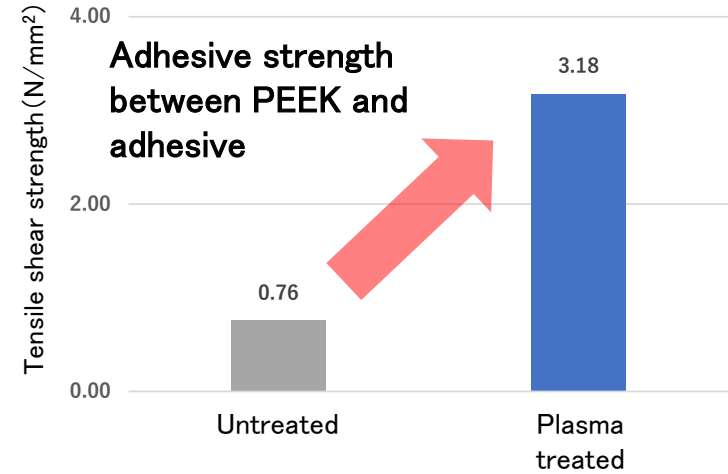
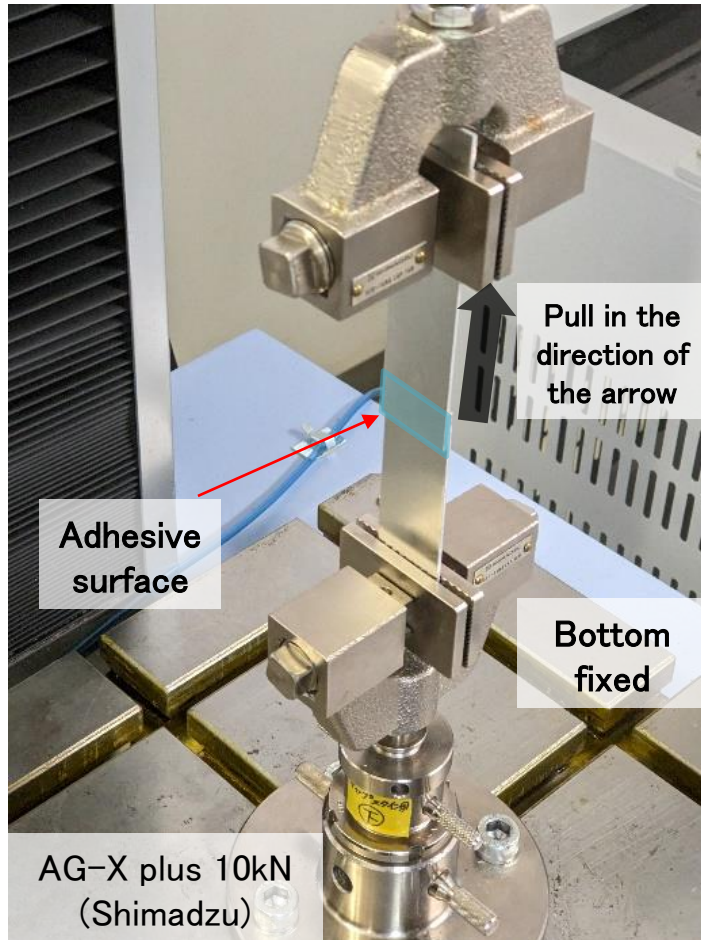
Aluminium
Condition : 50W、Ar 10slm

Contact angle changes by plasma treatment



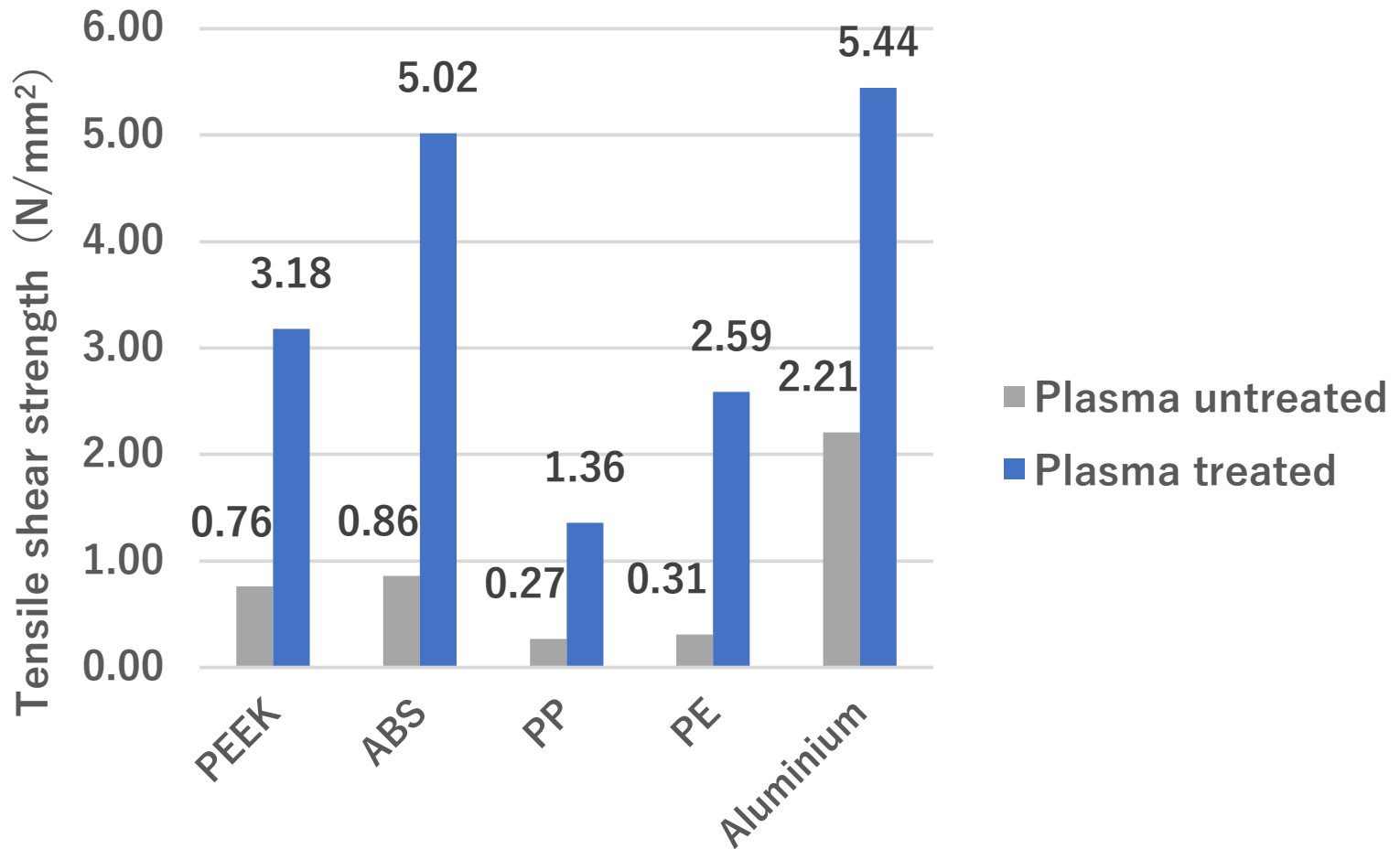
Plasma treatment allows to improve **hydrophilicity**

Changes in adhesive strength



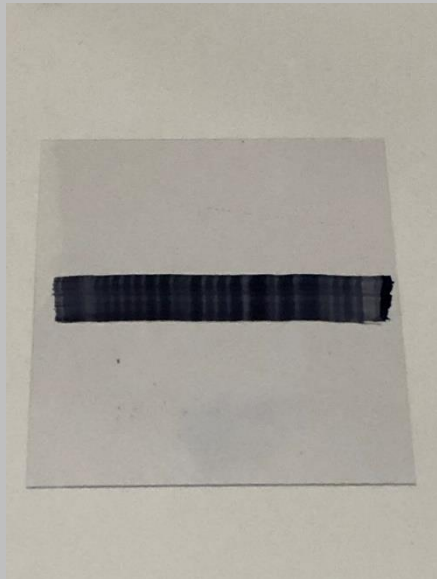
Plasma treatment allows to improve **adhesive strength**

Changes in adhesive strength



Applicable in pretreatment for difficult-to-adhesive materials

Before

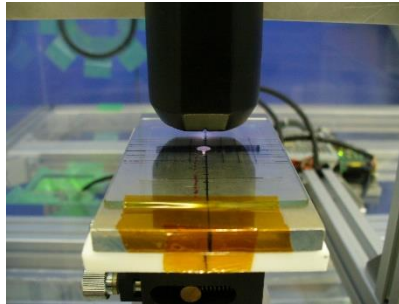


Dirt on the surface

The glass applied oil-based ink



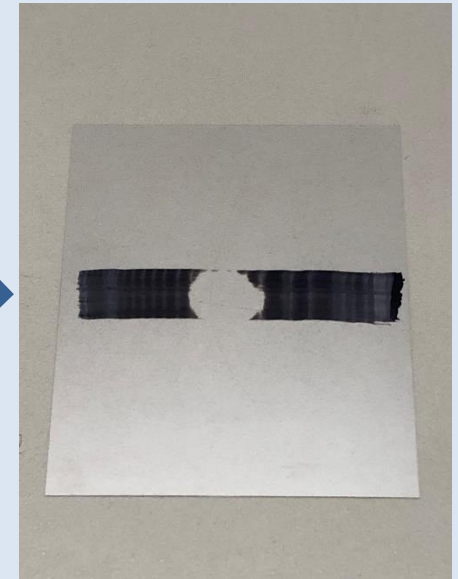
PlasmaTact™



Plasma treatment



After



Removal of dirt
on the surface

Condition: 50W, Ar 5slm, Ar+H₂ 50sccm, Irradiation: 10s

Plasma treatment allows surface **cleaning**



PlasmaTact™

① Atmospheric pressure

Generate plasma
at atmospheric pressure

② Argon gas

Generate argon gas plasma

③ Microwave method

Irradiate low temperature plasma
at low voltage

Control unit

Screen



Button

- ✓ This unit controls gas flow and plasma power.
- ✓ Front panel buttons allow to control.

Plasma torch



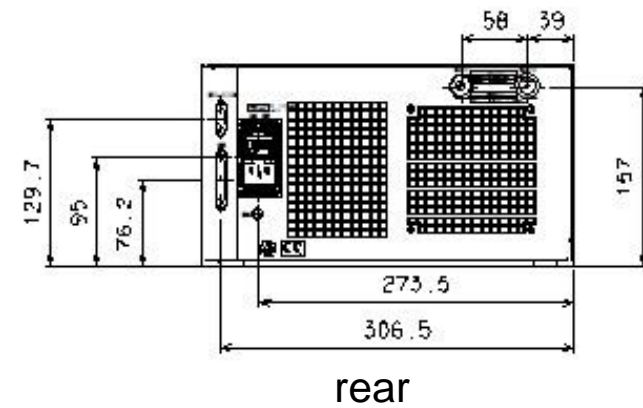
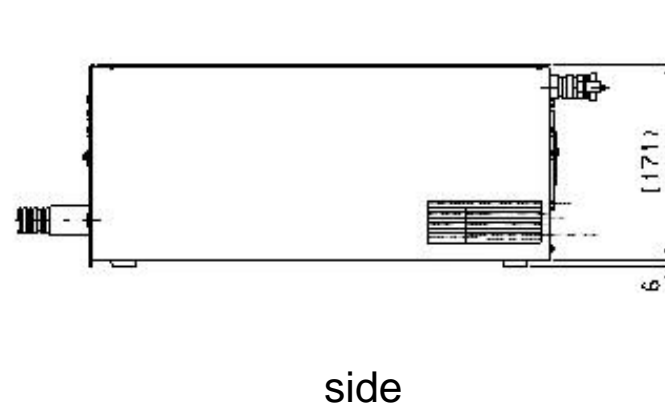
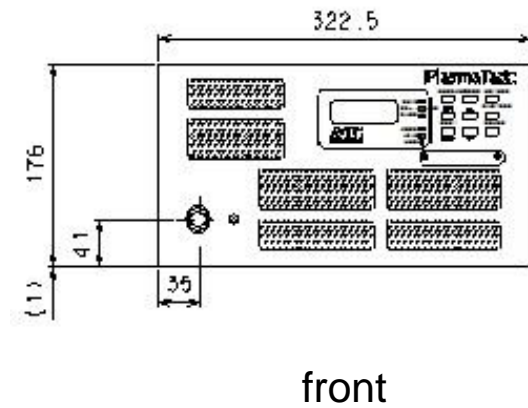
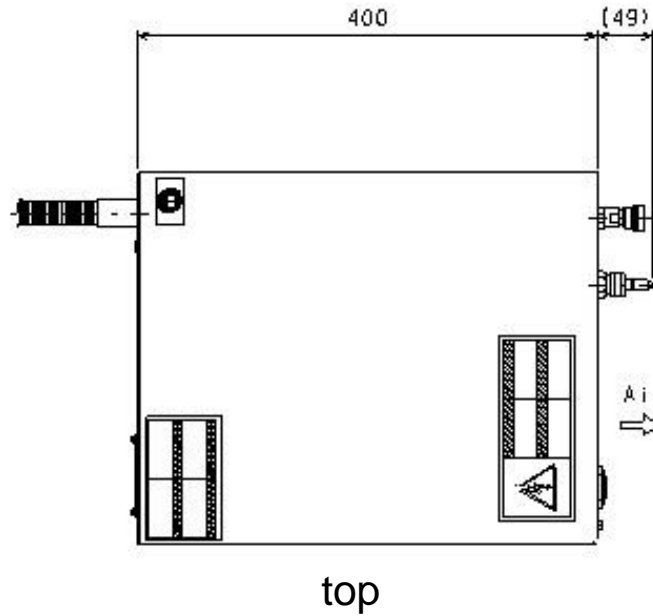
Nozzle

- ✓ Atmospheric pressure plasma is ejected from a 2mm diameter nozzle. PlasmaTact is available to modify 12mm area in diameter (It depends on gas flow rate, input power, distance and time)

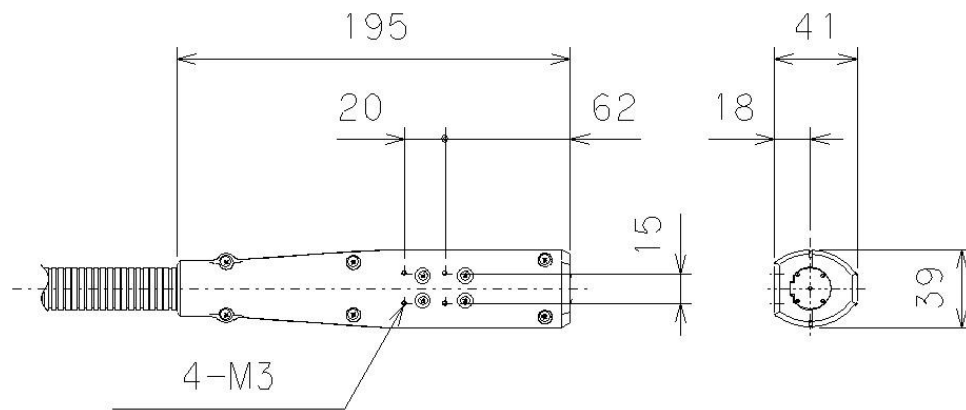
Specification

Model	PLT-50
Plasma gas	<Main gas : Argon gas> 5.0 - 10.0slm (0.1slm steps) 0.1 - 0.3MPa
	<Sub gas : N ₂ /O ₂ /Ar+H ₂ > 10 - 500sccm (1sccm steps)
Plasma power source	Microwave power(2.4 - 2.5GHz) MAX50W
Power source	Single phase 100-220V ± 10% 350VA
External dimensions	<Control unit> (W) 323 x (L) 400 x (H) 177 (mm) Protruding parts not included
	<Plasma torch> (W) 39 x (L) 195 x (H) 41 (mm)
Weight	Approx. 16kg/35lbs
Cooling type	Forced air cooling, water cooling (torch)
AC inlet	AC inlet: IEC 320-C14
Gas connector	Swagelok SS-QC6-D1-600 (Main gas) /SS-QC6-B1-600 (Sub gas)
Remote connector	RS-232C : D-sub9pin male socket
	IF : D-sub25pin female socket

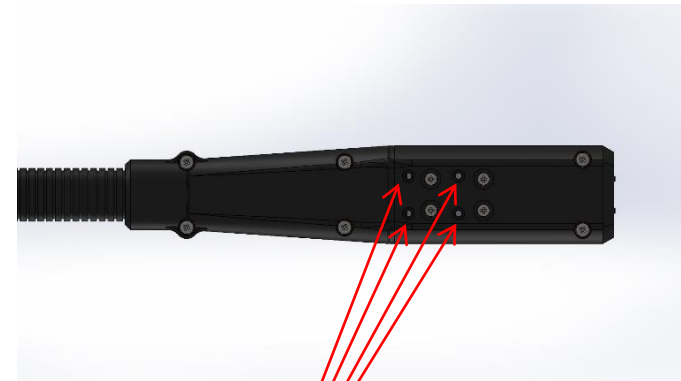
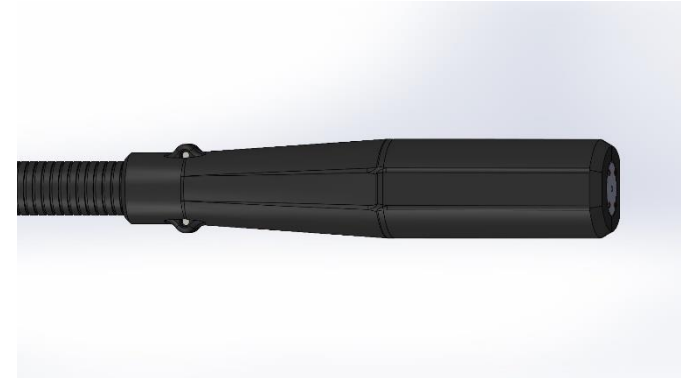
Control Unit External Dimensions



Plasma Torch External Dimensions



Screw length 6mm or less



Mounting screw hole × 4