

CYRANNUS®

surface activation



R&D100 Award 2003



Young Female
Entrepreneur Award
2000

„Aus den praktischen
Erfahrungen mit den
Hidden Champions lernte
ich mehr über
Management als in zwei
Jahrzehnten
wissenschaftlicher
Forschung“

Prof. Simon (founder of
Simon, Kucher & Partners)

CYRANNUS®
cylindrical
resonator with
annular slots

int. patents approved or
pending, e.g.

EP 97906173

EP 98928283

EP 0872164

US 6204603 B1

US 6198224

US 6543380

JP 531466

JP 524812

reliable polymer pre-treatment for
improvement of varnishing
- wetting or repelling of water -



CYRANNUS® technology

Plasma easy to apply!

Polymer activation

By plasma activation of surfaces various polymers can be pre-treated for improved wetting or sticking in following painting and dying processes:

activation

- surface energy of various polymers can be improved by plasma treatment for improved wetting with water based varnish

duration

- activation with middle pressure plasma stays longer due to saturation effect after very short process time

process

- the process is fully controlled
- material and shape have few influence on process

cost

- plasma treatment costs decrease dramatically by rising the throughput.
- operational costs are very low

environmental

- plasma processes are environmental friendly because the treatment requires only air or oxygen as treatment gas

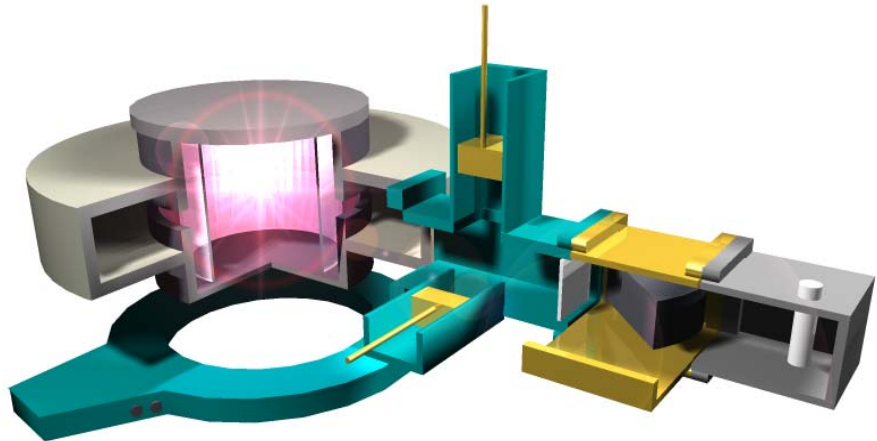
coating

- alternative to activation, also coatings are possible with functional properties as wear resistance, diffusion barrier etc.

CYRANNUS® plasma generation

CYRANNUS® is an innovative solution for a plasma source which works as a reliable tool with few limitations.

principle



technology



- spatial homogeneous plasma
- from vacuum to ambient pressure
- arbitrary process gas
- high gasflow possible
- plasma excitation without electrodes
- reliable operation

plasma system

polymer	treatment of each polymer (including silicon, Aramid or PTFE)
effect	increased surface energy with long duration (> 60dyn/cm for several weeks or months) for improved varnishing or decrease of surface energy (<30dyn/cm)
process time	typical process time of only a few seconds
plasma source	CYRANNUS®/I plasma generation in different sizes and from high vacuum to ambient pressure
microwave	2,45 GHz / up to 6kW continuous wave / optimised efficiency by auto-tuner
handling	automatic transfer of parts to and from treatment area through sluice
automation	control system built of modular devices PLC Simatic* S7 field bus Profibus* (other PLCs or field busses on request) process parameters displayed on screen change of process parameters on screen process documentation module (optional)
safety	multiple secured safety circuits interlocks by hardware and PLC CE conformity

* trademark by Siemens AG

For further questions please contact:

iplas innovative plasma systems gmbh • Langbaughstr. 10 • 53842 Troisdorf • Germany
info@cyrannus.com • www.cyrannus.com • Tel. +49(0)2241 93268-0 • Fax +49(0)2241 93268-15