

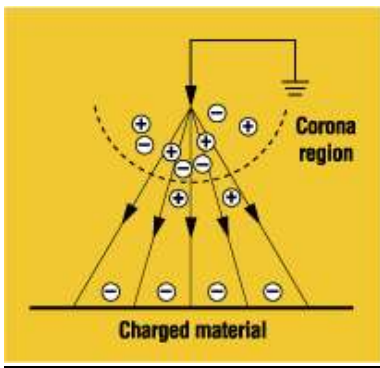
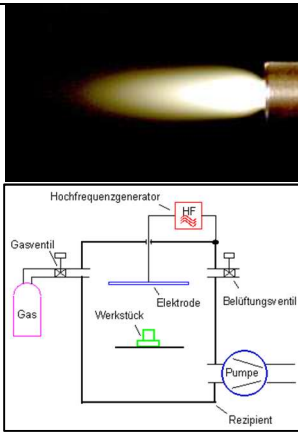


Surface treatment of growth area of TPP-products

Untreated plastic is unsuitable for adherent cell culture applications, as they require a suitable culture surface for adhesion and proliferation.

Non-treated polystyrene (PS) features an uncharged, hydrophobic surface. For adherent cells to grow and proliferate on a PS growth area, it must be transformed into a charged, hydrophilic one by a treatment.

There are two basic treatments available on the market.

Corona treatment	Plasma treatment
Increase surface energy to obtain optimum adhesion	Activates the growth surface for optimal cell adhesion.
Important: The growth area is treated and not coated	
 <p>The diagram shows a yellow background with a black horizontal line at the bottom labeled 'Charged material'. Above it, several arrows point upwards towards a dashed semi-circle labeled 'Corona region'. Inside this region are several '+' and '-' signs. A ground symbol is connected to the top of the corona region.</p>	 <p>The top part shows a photograph of a plasma torch with a bright yellow-orange flame. Below it is a schematic diagram of a plasma chamber. It includes a 'Hochfrequenzgenerator' (HF) connected to an 'Elektrode' (electrode) and a 'Werkstück' (workpiece). A 'Gasventil' (gas valve) is connected to a 'Gas' inlet, and a 'Belüftungsventil' (ventilation valve) is connected to a 'Pumpe' (pump) and a 'Rezipient' (receiver).</p>

Surface treatment of TPP tissue culture growth area

Treatment developed by TPP:

- Expertise of surface treatment + know-how of established treatment methods
- TPP treatment enhances the adhesion of cells
- Longest shelf life (6 years EXP. date)

Quality control:

- Regular controls with L929 mouse fibroblasts conforming to DIN EN ISO 10993-1, USP 27.
- Result: rising proliferation rate.
- Blind test: products with various surface treatments



Important:

- Long-term stable, reproducible values since 1991
- Small lot to lot variability
- Properties tested in blind tests continuously
- Mirror finish of mold
- Optimal process combination (material, pressure, time, distance, speed)
- In-line production
- Selective treatment (e.g. on spherical zones in 96-w U plates only)
- No clouding of the crystal clear surface
- High reproducibility

What lowers the quality of any surface treated product: (factors outside TPP's reach)

- Time (Expiry date administration = important: FIFO)
- Exposure to direct sunlight
- Opened product bags
- Exceeding optimal relative humidity in storage room of 50 – 60 %
- Deviation of the optimal storage temperatures of 10 – 30 ° C
- Brisk changes in temperature
- Etc. etc., list not complete, there are many other factors