

VON ARDENNE 



DREVA 600 LAM HYDROGEN-FREE CARBON COATING SYSTEM

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MAIN FEATURES

- Field proven, reliable and refined equipment concept
- Laser-Arc-Modul (LAM) for ta-C deposition, optional with macroparticle filter
- Arc evaporation sources for base coatings
- Option: Sputter cathodes (planar and tubular), including HiPIMS
- Hollow cathode for plasma pre-treatment
- Segmented substrate heating unit
- Usable coating volume: Ø 500 mm x 500 mm
- Adjustable substrate carrier: dedicated holding fixtures for various tool and component designs
- Fully automated control system and data logging

APPLICATIONS

- ta-C deposition in combination with subsequent polishing step for tribological systems
- Macroparticle filtered ta-C deposition for thin layers on 2D and 3D substrates

PROCESS BENEFITS

- Low friction coefficient of polished ta-C down to $\mu < 0.01$, supra lubricity verified
- Indentation acc. to ISO 14577: E-modulus 300 – 600 GPa / hardness 40 – 80 GPa
- ta-C layer properties: sp^3/sp^2 up to 80%, H-content < 0.1 at % (at detection limit of NRA)
- Thermal stability of layer properties in use: $< 400^\circ\text{C}$ ($\Delta < 750^\circ\text{F}$)
- Low deposition temperature: $< 180^\circ\text{C}$ ($\Delta < 360^\circ\text{F}$)
- Many substrate materials: steel, hard metals, Si, Al, Ti-alloys, glass, polymers
- Certified ta-C adhesion to substrate material in tribological applications
- Layer thickness: up to $30\text{ }\mu\text{m}$ in use
- Thick ta-C coatings $> 3\text{ }\mu\text{m}$ can be polished to achieve a very smooth surface

CUSTOMER BENEFITS

- Superior wear protection of up to $30\text{ }\mu\text{m}$ thick ta-C layers with outstanding properties
- Deposition rate at the maximum physical limit shortens process time to a competitive advantage
- Production proven technology, equipment concept and layer properties

RANGE OF COATINGS

- Standard layer stack: Cr / ta-C
- Optional base coatings: Cr, Ti, CrN, WC
- Other hard coatings on request

WORLDWIDE SALES AND SERVICE

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