AddLife
Coatings for Life

# The world's Best Coating Technology Now in India!


## HiPIMS Technology

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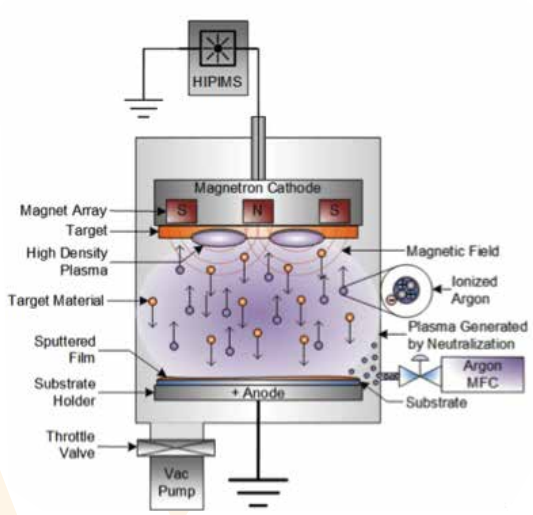
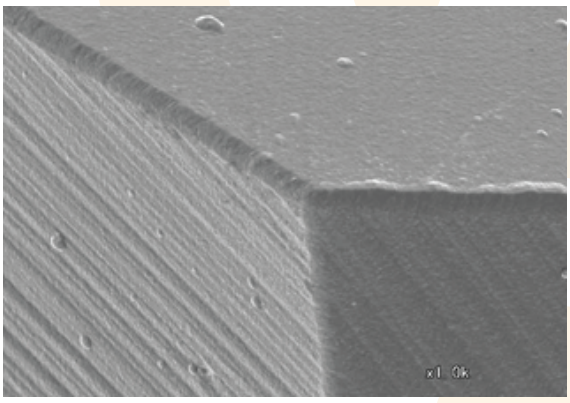
*HiPIMS (High Power Impulse Magnetron Sputtering) combines the advantages of all conventional coating technologies for cutting tools available on the market. The properties of this coating include smoothness of the sputtering, the high hardness values, compact coating structures and scratch resistance to over 130 newton of force, which enables HiPIMS-coated tools to be exceptionally resistant to wear in extremely hard, especially tough and oxidation resistant materials such as stainless steel, titanium or nickel based alloys. Simultaneously HiPIMS coatings also deliver top performance in unalloyed, alloyed and high speed steels.*



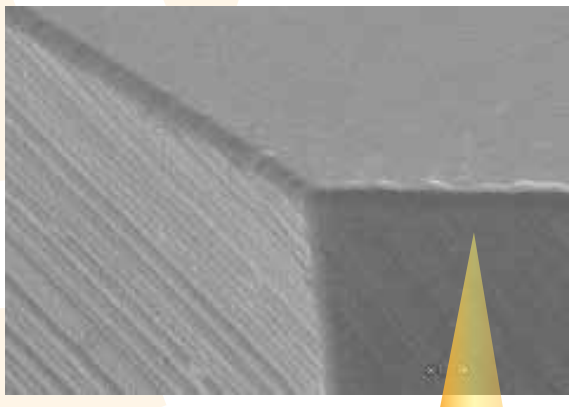

*The high metal ionization of nearly 100% gives the best adhesion, even in cold-welded materials, which are particularly difficult to machine. In addition, coatings deposited by HiPIMS technology give extremely homogeneous surfaces, even on very complex 3D geometries. HiPIMS is the next generation technology of DC sputtering. The performance peaks with the HiPIMS process form a high energy plasma that ionizes the deposited materials at unprecedented levels. The high flux of highly ionized species result in a very dense and a nearly completely amorphous coating structure.*

## Advantages of AddLife HiPIMS Coatings

- Low residual stress
- Very smooth coatings without formation of droplets
- High level of hardness and hot hardness
- Exceptional adhesive strength
- Oxidation-resistant
- Low friction
- Deposition of thick coatings possible due to very low internal stress
- No rounding on the cutting edges, sharp edges also on thick coatings
- Cost-effective production in both small and large batches
- High flexibility in the choice of coating materials due to practically unlimited combinations of periodic-table elements for producing coatings
- Possibility of also depositing conductive and non-conductive materials on all substrate in the future



PVD SPUTTER Coating



HiPIMS-technology

- Ultra smooth tool surface
- Super perfect cutting edge

# FerroCon®

***For unalloyed, alloyed and high-speed steel***

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Coating Technology:
**HiPIMS**

Coating Material:
**TiALN-based**

Color:
**Anthracite black**

Max. operating temp:
**1,000 °C**

Coating Thickness:
**1-3 µm**

## Application example

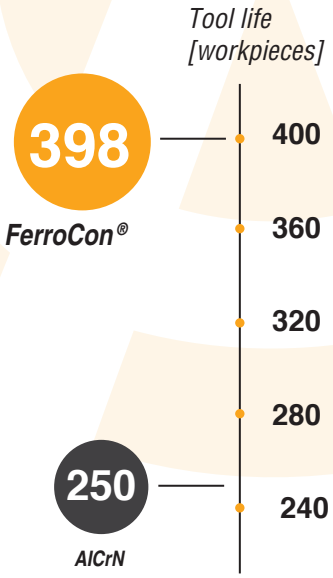
*Material: 40CrMoV4-6*

*Tool: cutting insert*

$v_c$ = 250 m/min

$a_p$ = 3 mm

z = 2 mm




# Halcron

***For cast iron, titanium and steel up to 60HRC***

*Halcron is an extremely versatile HiPIMS coating developed in house by Addlife specifically for a wide scope of application. Due to its combination of high hardness and toughness, Halcron can be used on tools that need resistance to abrasive wear while working on soft materials (like cast iron, soft steels, stainless steels & difficult-to-machine materials) and also tools that require impact resistance and durability against crack propagation met when working with hard materials (like hardened steel alloys). It's coating chemistry which can be used on both carbide and HSS substrates, combats degradation at high machining temperatures lowering diffusion wear and thermal fatigue.*

| | |
|---|---|
| Steel | ● |
| Stainless steel | |
| Cast Iron | ● |
| Aluminium | |
| Graphite / Green Compact | |
| Ceramics | |
| Titanium | ● |
| Hard Materials (>50 HRC) | ● |
| CFRP / GFRP | |

Coating Technology:
**HiPIMS**

Coating Material:
**ALCrN-based**

Color:
**Ash Gray**

Max. operating temp:
**1,000 °C**

Coating Thickness:
**1-3 µm**

# Hyperlox®

***Coating for cast iron/ steel up to 60HRC***

*The high content of aluminum results in high hardness. The smooth and droplet free surface and the very good adhesion of the coating make HYPERLOX® perfect for end mills, the Plus versions also feature greater wear volumes to increase tool life and productivity. HYPERLOX® has additionally proved to solve heat checking issues in high pressure die casting, the coating thicknesses, applied in the range of 3 to 6 µm, protect the substrate from the negative influences in the cutting process because of high temperatures.*

Coating Technology:
**HiPIMS**

Coating Material:
**ALTiN-based**

Color:
**Anthracite/blue**

Max. operating temp:
**1,000 °C**

Coating Thickness:
**1-3 µm**

## Application example

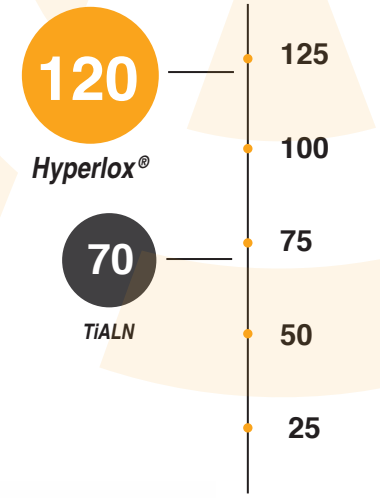
*Material: 42CrMoV4*

*Tool: End mill, ⌀52 mm*

*$v_c$ = 135 m/min*

*$a_p$= 1 mm*

*z = 4 mm*




# SteelCon®

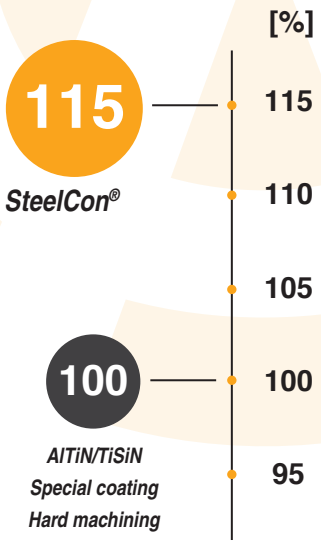
***High process stability in hard machining HRC ≥50.***

*The HiPIMS coating material SteelCon® is the second silicon doped HiPIMS coating material from CemeCon and enables economical machining under the extreme conditions of hard machining with first-class surface quality. SteelCon® is highly resistant to wear. High hardness is combined with excellent adhesion. The very homogeneous wear behavior of SteelCon® ensures high process stability. The very high silicon doping layer structure also ensures high thermal stability. As no droplets can form thanks to the HiPIMS process, SteelCon® is also extremely smooth. The tool can dissipate the heat in the chips, and process stability is increases. Excellent surface finishes are achieved, this eliminates the need for reworking the workpieces.*

## Application example

***Tool and mould makers***

*Material: 1.4028: 52HRC*
*Tool: Ball nose end mill,*
*Ø 6 mm*
*$v_c$ = 950 m/min*
*n = 11.000 U/min*
*$a_p$ = 0,18 mm*
*$a_e$ = 0,18 mm*
*Cooling: Emulsion*



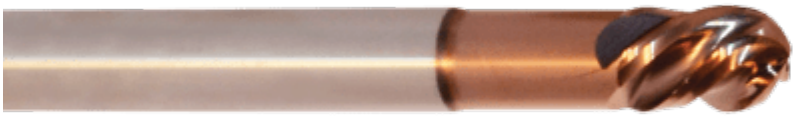

Coating Technology:
**HiPIMS**

Coating Material:
**TiAlSiN-based**

Color:
**Red-Gold**

Max. operating temp:
**1,000 °C**

Coating Thickness:
**1-3 µm**







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Coatings for Life


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