



# PVD Coatings for Aluminum die casting Molds

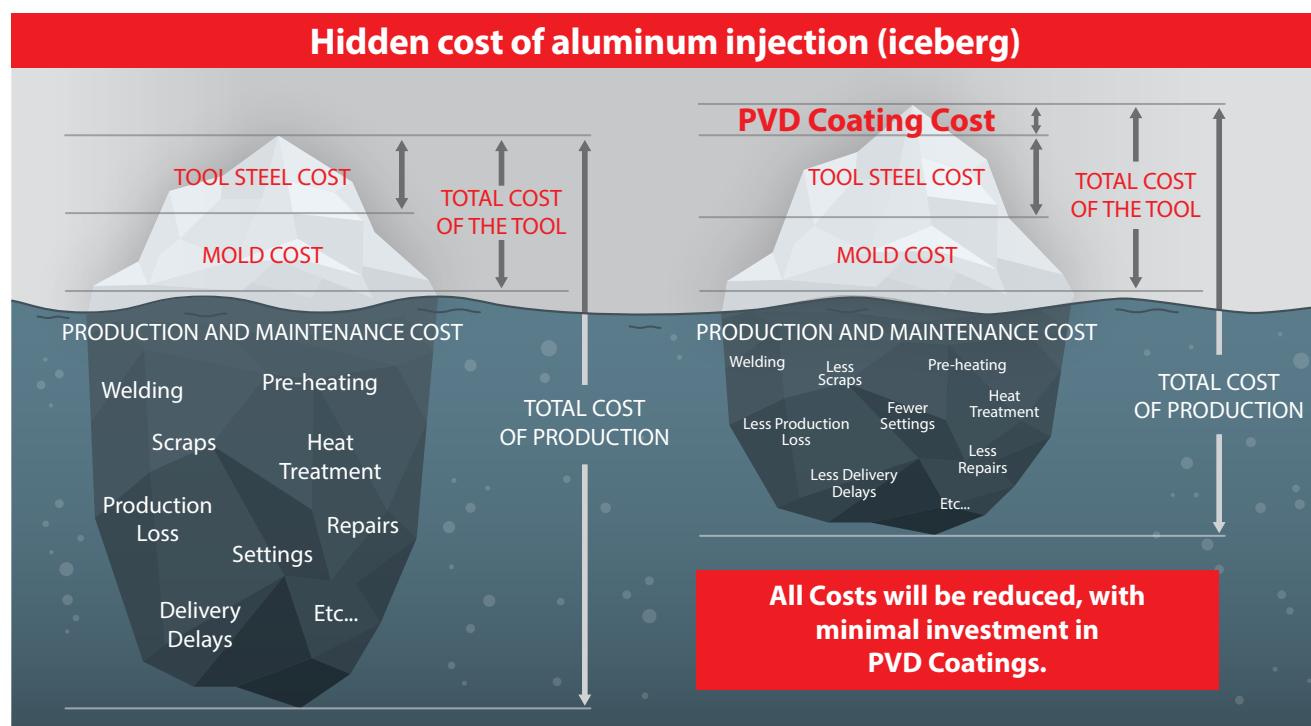
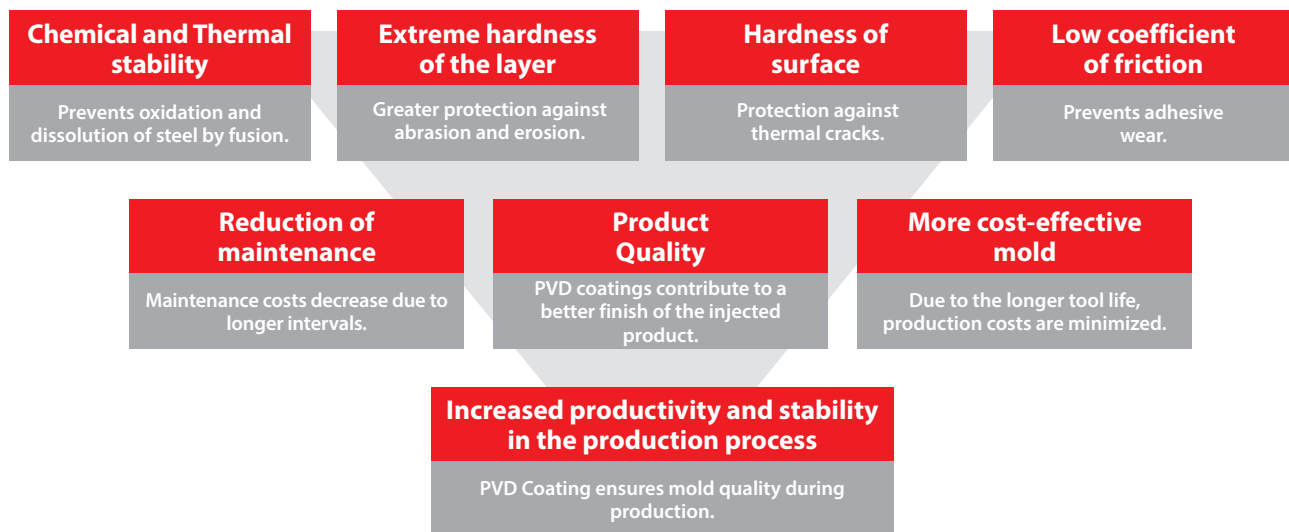


# PVD Coatings for Aluminum die casting Molds

Our PVD coatings were specially developed to reduce friction, increase surface hardness, and reduce heat cracks of all aluminum die casting molds. Besides increased tool life the coatings allow longer maintenance cycles and faster tool changes.

With over 30 years of experience of coating core pins as well as cavities, our R&D center has been developing high performance coatings dedicated to Aluminum and Magnesium Die Casting applications.

## Primus Coating allows you to optimize efficiency



# Primus Coating allows you to increase the performance of your process

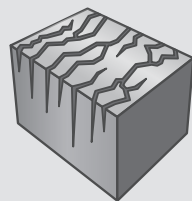
## SPECIFICATIONS AND APPLICATIONS OF PRIMUS COATING FOR ALUMINUM INJECTION MOLDS

Coating	HP Form*	HP Dura*	HP Cast*
Features			
Composition	TiAlN Based	AlCr Based	TiAlN Based
Hardness (GPa)	37 GPa	38 GPa	36 GPa
Coefficient of friction (dry against steel)	0.35	0.33	0.4
Coating thickness (µm)	4 ~ 6 µm	4 ~ 6 µm	6 ~ 8 µm
Maximum oxidation temperature (°C)	800°C	1,100°C	800°C
Coating deposition temperature (°C)	450°C	450°C	450°C
Coating Color	Violet	Dark Grey	Violet
Coating structure	Multilayer	Multilayer	Multilayer
Properties	High heat resistance and hardness, excellent wear resistance.	Thermal crack resistance, favorable thermal conductivity, high temperature oxidation resistance.	Good hardness, anti galling, low friction, high resistance to chipping and cracking.
Applications	Medium to high strength steels trimming, and piercing, press hardening, good for abrasive material forming. Die casting molds.	Punching, piercing, deep drawing, die casting core pins & forming of high strength thin sheets.	Excellent for die casting, ultimate key for forming of thicker steel sheets. Helps eliminating the galling of mild steels and aluminum.

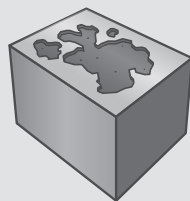
\* Duplex coating available (Nitride + Coating), for more information, please contact our sales department. The depth of nitriding will depend on the material of the mold.



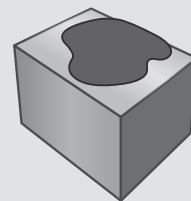
## Coatings prevent and act to protect against the following types of wear in the aluminum injection process



Against cracks caused by thermal fatigue

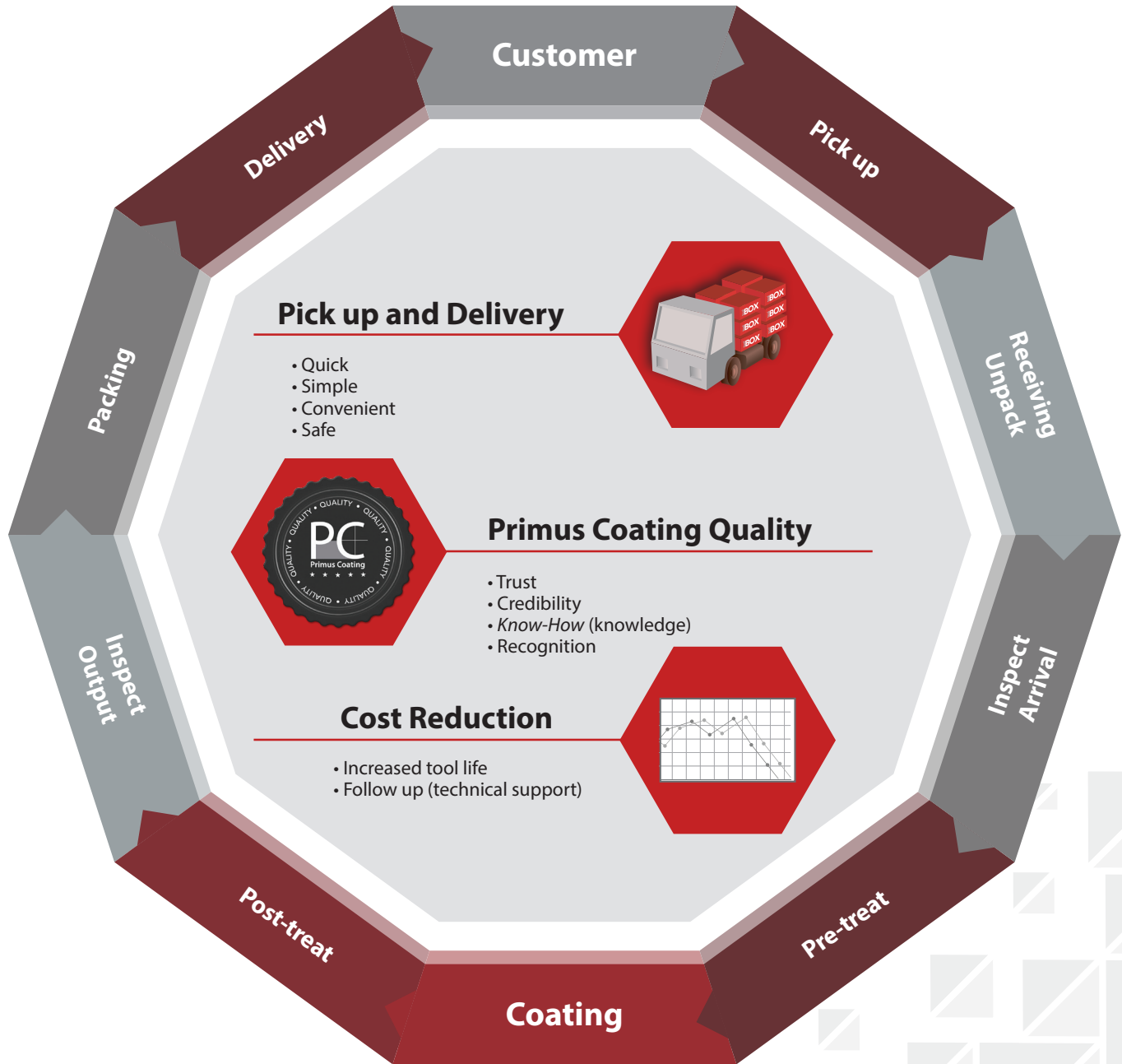


Against erosion and abrasion



Against material galling

■ PRIMUS COATING QUALITY ASSURANCE



**PrimusCoating**

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**We** listen  
 understand  
 deliver

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