

PVD Coatings for Plastic Injection Molds



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Our PVD coatings are specially developed to protect plastic injection molds from abrasive wear, improve de-molding characteristics, give scratch protection on the mirror-polished surfaces, enhance corrosion resistance and increase the efficiency and reliability of the tools.

With over 30 years of experience in coating molds and dies, our R&D center is constantly developing high performance coatings dedicated to Plastic Injection.

Specifications and Applications for Plastic Injection Molds and Dies

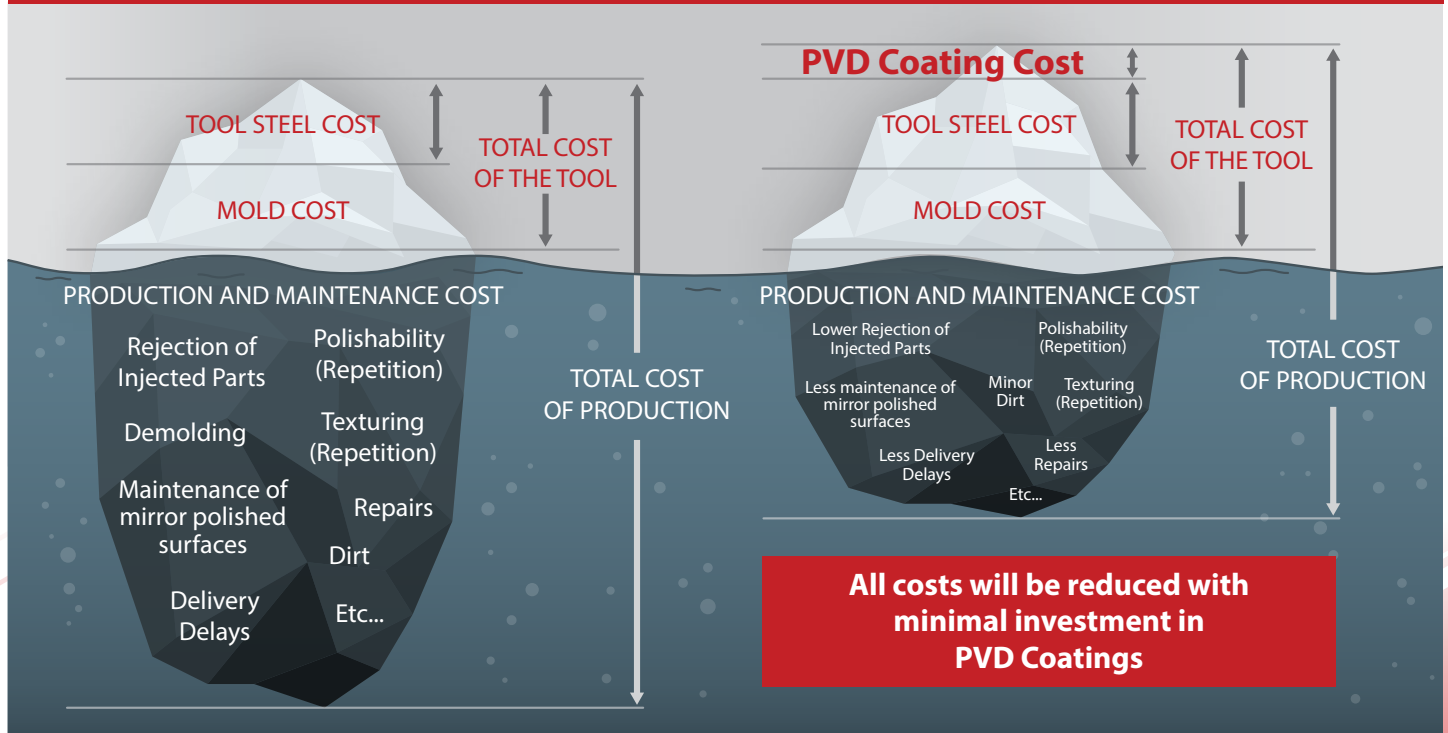
Characteristics	Coatings		TiN*	HP Form**	HP Dura**	HP Cera*
	Features					
	Composition		TiN	TiAlN Based	AlCr Based	Cr Based
	Hardness (GPa)		30 GPa	37 GPa	38 GPa	30 GPa
	Coefficient of Friction (dry against steel)		0.25	0.4	0.33	0.1
	Coating Thickness (µm)		3.5 ~ 4.5 µm	4 ~ 6 µm	4 ~ 6 µm	1.5 ~ 2 µm
	Maximum Oxidation Temperature (°C)		500°C	800°C	1,100°C	550°C
	Coating Deposition Temperature (°C)		200° C 450° C	450° C	450° C	200 °C 450° C
	Coating Color		Gold	Violet	Dark Grey	Dark Grey
	Coating Structure		Monolayer	Multilayer	Multilayer	Multilayer
Recommended Applications	Thermoplastics	PE, PP, PB	⊙	-	○	-
		PS, SB, SAN, ABS, ASA	⊙	○	○	⊙
		PVC	-	-	⊙	⊙
		PTFE, SPTFE, PVDF	⊙	-	⊙	⊙
		POM	○	⊙	⊙	-
		PA	○	⊙	○	⊙
		PC, PBT (B), PET (P)	⊙	-	-	⊙
		PPE, PEEK, PAEK / PPS, PSU, PES	○	⊙	-	-
		PI	○	⊙	○	⊙
		CA, CP, CAP	-	⊙	-	⊙
		PMMA	-	⊙	-	⊙
		TPU	-	⊙	○	⊙
	Thermosets	PF	⊙	-	○	○
		EP	○	-	⊙	⊙
		UP	○	-	⊙	○
		MF, UF, MP	○	-	⊙	⊙
	Elastomers	PUR	⊙	-	○	-
		NBR, EPDM, Si	⊙	-	○	-
		Multipolymer TPE, FPM	⊙	-	○	-

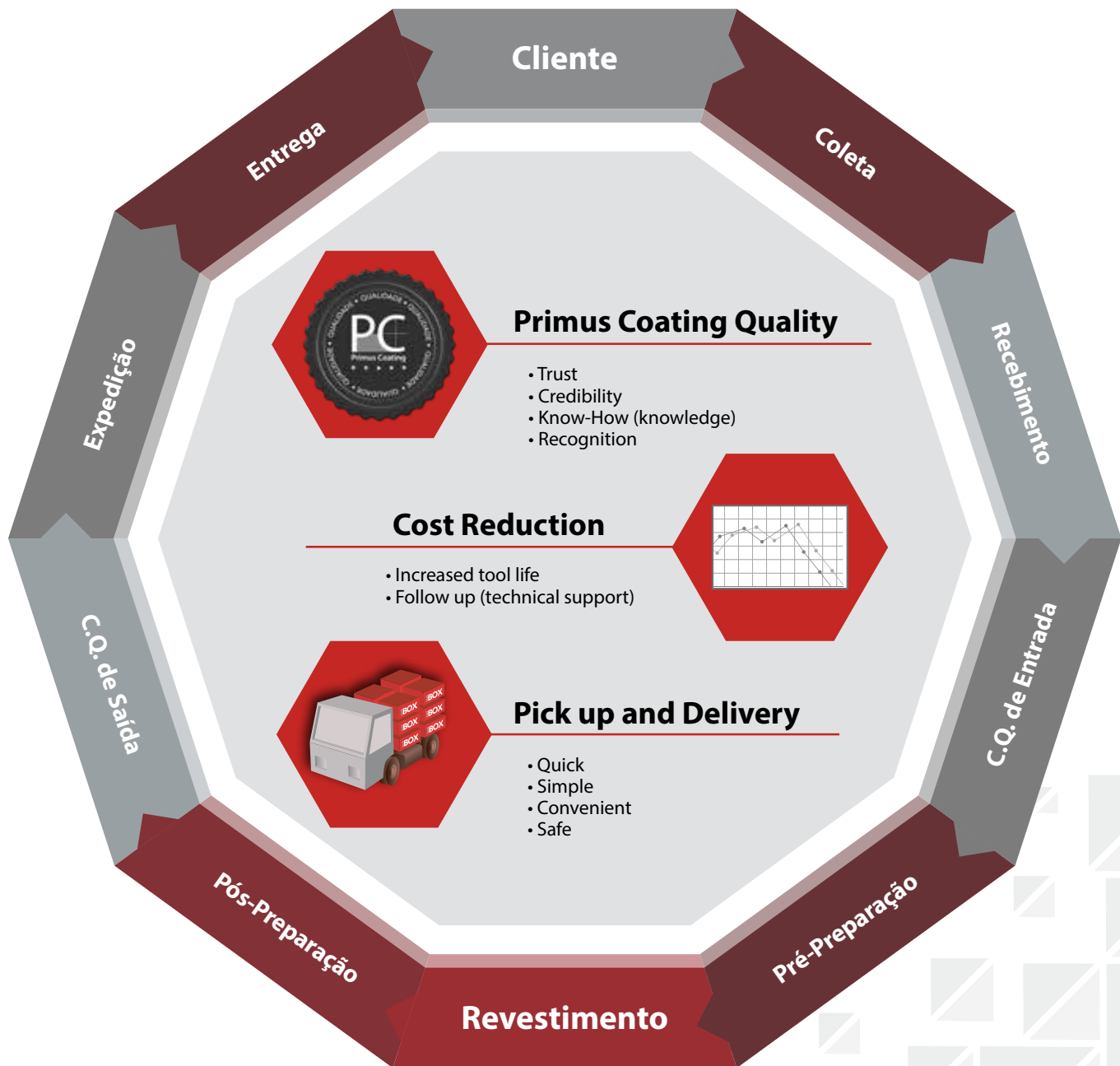
* Available in Low Temperature.

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

⊙ Excellent ○ Good

Hidden Cost of Plastic Injection Process





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