



Maximum service life. Low-wear cutting of aluminum.

TKM Plasma Knife.

A new generation of knives.

For getting the right-sized printing plates.

TKM has designed a new generation of knives in the form of the plasma knife, specially designed for cutting aluminum offset printing plates. The knives are coated with a wear-resistant carbon coating 2 μm to 4 μm in thickness to prevent the adhesion of aluminum. Prior to coating, the knives are cleaned and prepared in an elaborate process involving ultrasound generators. Contamination and non-metalliferous elements are incinerated without residue. This cleaning ensures the required adhesiveness and functionality of the carbon coating.

An integral component in offset printing is the printing plate, made of high-purity aluminum. In the final stage of manufacturing, the printing plates are cut to the correct print size by Guillotine Shear Blades. The printing plates are subject to high quality requirements regarding formation of notches and cutting quality. For cutting, steel and carbide knives are used that must have particular angle geometries and tolerance ranges.

A negative side effect of cutting printing plates is the adhesion of aluminum to the back of the knife. This so-called “cold welding” makes the printing plates more easily prone to form notches and burrs. Such plates are not suitable for practical use in printing shops. The knife must therefore be removed again after cutting just a few times. These frequent knife changes and high grinding costs tremendously affect the efficiency of the process.

Advantages:

- No cold welding or aluminum adhesion at the knife.
- Extremely high wear protection and scratch resistance
- Good corrosion-resistance
- Extremely low coefficients of friction
- Easy cleaning of the knives
- Maximum service life without knife changes
- Reduction in grinding and knife change costs



Knife with cold welding.



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