Surface Treatments and Coatings for Improved Productivity

Dayton’s leading-edge coatings and other unique surface treatments have been developed to improve in-plant performance by increasing tool hardness and wear resistance.

**Surface Treatments**

**DayKool™ (XCR)** — a cryogenic steel conditioning process used in addition to heat treating. An effective way to achieve optimum toughness, improved strength, and dimensional stability. Used primarily with hard, thick materials.

**DayTride® (XN)** — a low temperature, cost-effective surface application that treats all exposed surfaces. Provides increased dimensional stability. Ideal for punches and die buttons. Approx. hardness: RC73.

**Versa/plus™** — a thin film coating provides superior hardness (harder than carbide). Super-smooth finish on the point helps reduce galling and maintenance. Ideal for higher-than-normal punching frequency.

**Adhesive Wear**


**Extrusion Coatings**

**XNP** — the ultimate coating for improved resistance to galling; excellent wear resistance, superior surface finish, and high lubricity. Ideal for extruding and forming applications. Tolerance is ±.0002". Approx. hardness: *Vickers 3100.

**XNAProgress (XNAP)** — ultra-hard PVD coating that absorbs shear stress; provides excellent high-temperature resistance. Ideal for stamping where tools are exposed to extreme stress profiles. A good alternative to TD coating without the dimensional changes associated with that process. Approx. hardness: *Vickers 3200.

**Miscellaneous Coating**

**CRN** — excellent adhesion, high toughness, and good corrosion resistance. Primary applications are metal forming (copper, brass, & bronze), metal die casting, and plastic injection molding. Approx. hardness: *Vickers 1800-2100.

<table>
<thead>
<tr>
<th>Delivery</th>
<th>XCR — DayKool™</th>
<th>XNM</th>
<th>XN — DayTride®</th>
<th>XCD</th>
<th>XNT — DayTiN®</th>
<th>XNP</th>
<th>XCN — TiCN</th>
<th>XNAP — XNAProgress</th>
<th>XAN — DayTAN™</th>
<th>XNA — ZertonPlus™</th>
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* Vickers used when RC exceeds 80.
* DayTride and DayTiN are registered trademarks of Dayton Progress.
** DayTAN, DayKool, and ZertonPlus are trademarks of Dayton Progress.