

Engineered Surfaces

Improving the Performance of Your Precision Components

- **LONGER LIFE**
- **INCREASED POWER DENSITY**
- **REDUCED POWER LOSSES**
- **SHORTER DEVELOPMENT TIME**

Timken Engineered Surfaces deliver increased value by improving the wear, fatigue and frictional performance of your precision components. Our Engineered Surfaces team works with you on your specific applications to select and confirm the optimum surface for the component. We will apply the surface to your component at our service centers or work with you where appropriate to supply the complete component incorporating Timken Engineered Surfaces.

Improving component performance and reliability through surface engineering is an advanced technology that Timken researchers have been perfecting on bearings for years. Our extensive tribological research facilities, first-hand knowledge and service centers provide you with the optimum-engineered surface for your precision components.

Timken engineers use tribological coatings and surface finishes to change the surface material, surface design or subsurface design of a component. These coatings and surfaces finishes are selected based on a thorough analysis of the material, lubrication conditions and application requirements, and may be applied alone or in combination to the component.

Surface Engineering Technologies

ES10, ES20, ES30	Topographical Modification Processes. Provides some wear and friction reduction in poor lubrication. ES30 also increases fatigue life.
ES100 (TiC) ₉	Very low friction, hard coating. Provides scuffing and fretting protection to sliding contacts.
ES200 (TiC)aC:H	Low friction, moderately hard coating. Provides scuffing and fretting protection to sliding contacts, and fatigue enhancement to rolling contacts. A DLC top layer is available for added wear resistance.
ES300 (WC)aC:H	Moderate friction, hard coating. Provides abrasion resistance, fatigue life enhancement, and limited scuffing protection to rolling contacts. A DLC top layer is available for added wear resistance.
ES400 Cr _x (B ₄ C) _(1-x)	Very hard coating, useful for abrasive wear protection.
ES500 CrNx	Moderate friction, hard coating. Provides wear protection to rotating seal surfaces, compatible with fluoroelastomers (e.g., Viton, PTFE, etc.)

Timken can help you incorporate surface engineering into your system design or modify a component to eliminate an existing problem. For more information, please contact your local Timken sales representative or visit www.timken.com/engineered.