

## **Wear Material--White Iron**

### **High-Chrome 27%, KmTBCr27**

**Material Type Erosion** resistant white iron

#### **General Description**

Alloy KmTBCr27 is a wear resistant white iron that offers excellent performance under erosive conditions. The alloy can be effectively used in a wide range of slurry types. The high wear resistance of alloy KmTBCr27 is provided by the presence of hard carbides within its microstructure. Alloy KmTBCr27 is particularly suited to applications where mild corrosion resistance, as well as erosion resistance is required.

#### **Physical properties**

Density (kg/m<sup>3</sup>) 7500  
Hardness (HBW 10/3000) 650  
Tensile strength (MPa) 780  
Young's modulus (GPa) 220  
Elongation at break (%) 0.4  
Toughness (J) 190

#### **Chemical Resistance**

Alloy KmTBCr27 is generally not suitable for highly corrosive duties. The alloy can be used in mild corrosive duties, within a pH range of 5 to 12, for sulphuric and nitric acids, or sodium hydroxide applications.

#### **Parts Availability**

Most wet-end wear parts can be produced in alloy KmTBCr27. The most common parts are as follows:

Impellers, Throatbush, Volute liners, Frame plate liner insert, Casings

#### **Application Recommendations**

KmTBCr27 can be used for pumping a wide range of mild corrosive slurries. The alloy gives very excellent wear life for a wide variety of particle sizes and hardness. Usually, KmTBCr27 is most cost effective for particles greater than 100µm in size.

## Usual Rubber Material Performance

### Physics Mechanical Performance

Item	Unit	Standard
Tensile Strength $\geq$	MPa	16
Tensile Strength Rate $\geq$	%	450
Tensile degeneration Permanence $\leq$	%	30
Hardness	Shore A	55 $\pm$ 5
Wear decreasing Volume $\leq$	CM <sup>3</sup> /1.61km	0.8
Wear-acid and alkali factor 20% H <sub>2</sub> SO <sub>4</sub> (20% NaOH) 18 <sup>o</sup> C -28 <sup>o</sup> C x 24H		0.8
Hot Air Aging Factor		0.75

### Chemical Performance

Medium Name	Permissible Temperature max.	Permissible Medium % MAX. (weight)	
		Hard Rubber	Soft Rubber
HCl	65 <sup>o</sup> C OR 85 <sup>o</sup> C intermission	any	No.
H <sub>2</sub> SO <sub>4</sub>	65 <sup>o</sup> C	$\leq$ 60	50 $\leq$
HF	Ambient Temperature	$\leq$ 40	No.
NaOH	65 <sup>o</sup> C	any	any
KOH	65 <sup>o</sup> C	any	any
Neutral Salt Solution	65 <sup>o</sup> C	any	any
NaClO	65 <sup>o</sup> C	any	any
NH <sub>3</sub> .H <sub>2</sub> O	65 <sup>o</sup> C	any	any

That's the performance of common rubber material for liners and impellers. Excellence could offer the particular material according to your special requirements.