

# Datenblatt | Data sheet

## Tool steel T15

Super high speed steel balls for tungsten T15 tools. They have great hardness and excellent abrasion resistance even at high temperatures. Since they have low toughness, they are not suitable for applications where impacts occur.

### Field of application

Special bearings for which excellent abrasion resistance at high temperature is required.

### Corrosion resistance

Corrosion resistance is higher than for tool steel M50.

### Material

130505 KU	T15	1.3202
-----------	-----	--------

### Chemische Zusammensetzung in %

C	Si	Mn	Cr	Mo	Co	V	W
1,50 - 1,60	0,15 - 0,40	0,15 - 0,40	3,75 - 5,00	≤ 1,00	4,75 - 5,25	0,90 - 1,10	≤ 0,25

### Physical / mechanical / thermal / electrical / magnetic characteristics

Characteristic	Symbol	Unit	Type	Note	Value
Density	$\delta$	g/cm <sup>3</sup>	Physical	Environmental temp.	8,30
Modulus of elasticity	E	GPa	Mechanical	-	218
Specific heat	C	J/kg*K	Thermal	Environmental temp.	461
Coefficient of linear thermal expansion	$\alpha$	10 <sup>-6</sup> /°C	Thermal	(DT = 0 - 100 °C)	9,5
Thermal conductivity	$\lambda$	W/(m*K)	Thermal	Environmental temp.	20,0
Volume resistivity	$\rho$	$\Omega$ *m <sup>9</sup>	Electrical	-	650
Relative magnetic permeability	$\mu$	-	Magnetical	Paramagnetic	> 500

### Technical characteristics

Characteristic	Type	Unit	Value	Unit	Value
Hardness	Mechanical	HRC	63 - 68		
Ultimate compressive strength	Mechanical	MPa	3000 - 3500	psi*10 <sup>3</sup>	433 - 507
Operating temperature	Thermal	°C	-40 / 540	°F	-40 / 1004

### Available with

Diameter min/max (mm)	Diameter min/max (in)	Precision grade
1,000 - 150,000	3/64 - 6	acc. to ISO 3290-1 / DIN 5401 / AFBMA