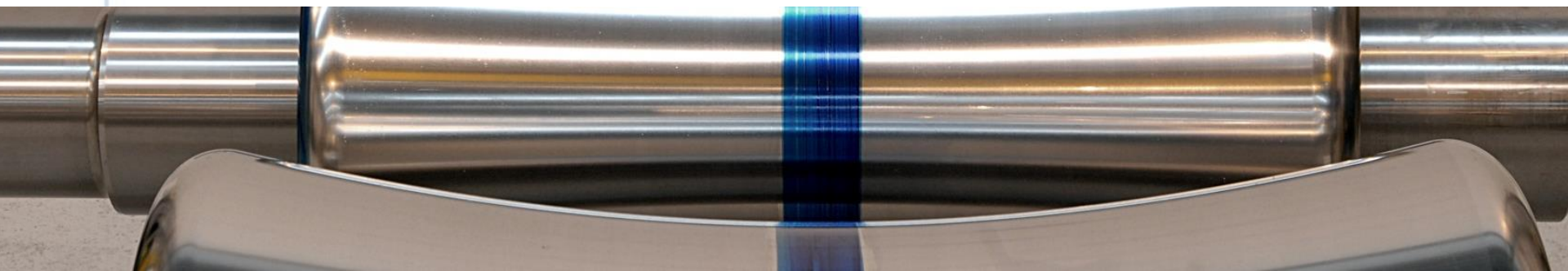


BOWERS & JONES

Bar and Tube Straightening Rolls



Rolls for Cold Bar and Tube Straightening

- Bowers & Jones design and manufacture rolls for:
 - Black and Bright Bar
 - Tubes and Pipes
 - Sections and Rails
- One piece and two piece rolls are available:
 - For tube and bar straightening
 - One Piece Rolls – through hardened with tempered back journals
 - Two Piece Rolls – roll body with separate shaft made from Tough Engineering Steel



Material Advantages

- Range of specially designed Forged (not cast) High Chrome Cold Working Tool Steel
- Compared to cast D2 Bowers & Jones forged ZESEK and ZESEK EXTRA have no porosity (casting defects) and increased crack resistance.
- ZESEK EXTRA has a more homogenous micro structure compared to forged D2 (Werkstoff No.1.2379).
- Better distribution of primary carbides means better abrasive wear and chipping resistance compared to commercially available D2 or (Werkstoff No.1.2379).
- If abrasive wear is not an issue, rolls in ZESEK offer a better value for money alternative, with good ductility and good comprehensive strength.



Fig1. Conventional W.Nr. 1.2379 (AISI D2) with Typical lines of primary carbides

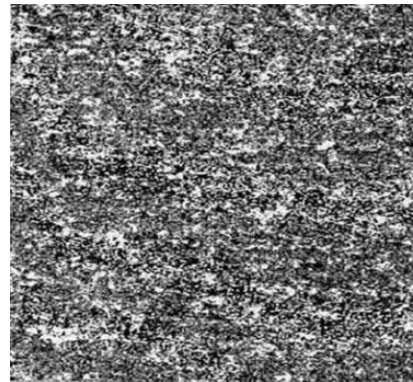


Fig2. ZESEK EXTRA with better distributed primary carbides

Manufacturing Advantages

- Bowers & Jones have the capacity to design and manufacture Extra Large tube and straightening rolls:
 - Ø1350mm (53inch) x 3m (10ft) length up to a weight of 8 metric tonnes (17.6k lbs)
- We offer the customer the options of one piece and two piece rolls.
 - Two piece rolls gives the customer material savings.
 - More consistent roll body material properties
 - B&J have a specialism in shrunk on rolls and shafts.



ZESEK Grades

Characteristics of ZESEK Grades

- Ledeburitic 12%Cr cold work tool steel.
- Excellent toughness and very high wear resistance.

Typical Applications

- Tube mill rolls, rolls for cold rolled sections, stretch reducing mill rolls, (specially treated)
- Cold straightening rolls, polishing rolls.

Roll Type	Recommended materials	Material No.	AISI (ASTM)	Usual hardness HRc	Tensile strength Rm=N/mm ²	Hardening process SH = Surface hardening, TH = Through hardening
Straightening rolls for Bars (one or two part design)	ZESEK	1.2379	D2	56 - 62		SH + TH
	SRSE	1.2714	L6	56 - 59		SH
	ZESEK Extra	-	-	56 - 62		SH + TH
Straightening rolls for Tubes (one or two part design)	ZESEK	1.2379	D2	56 - 62		SH + TH
	SRSE	1.2714	L6	56 - 59		SH
	ZESEK Extra	-	-	56 - 62		SH + TH
Shafts for two part rolls	SRSE	1.2714	L6		900 - 1100	
	30CrNiMo8	1.6580	-		800 - 1200	
	34CrNiMo6	1.6582	-		800 - 1200	
	40CrNiMo6	1.6565	4340		800 - 1200	
	42CrMo4	1.7225	4140		750 - 950	
Straightening rolls for Rails	ZESEK	1.2379	D2	58 - 60		TH
Straightening rolls for Sections	ZESEK	1.2379	D2	58 - 60		TH

Benefits

- Premium grades offer significantly longer service life.
- Increased meters rolled, less down time.
- Suitable for highly demanding applications (where normal grades cannot perform)
- ZESEK Extra can last up to 50% longer* than cast rolls

Our Competitors Tool Life

Bowers & Jones products last on average much longer

Bowers & Jones Tool Life

**Chemical
Composition
of material**

**Tool Steel
Quality**

**Heat
Treatment**

**Surface
Condition**

Tool Design

* (depending on the application and service conditions)

For more information visit our
website

www.bowersjones.co.uk