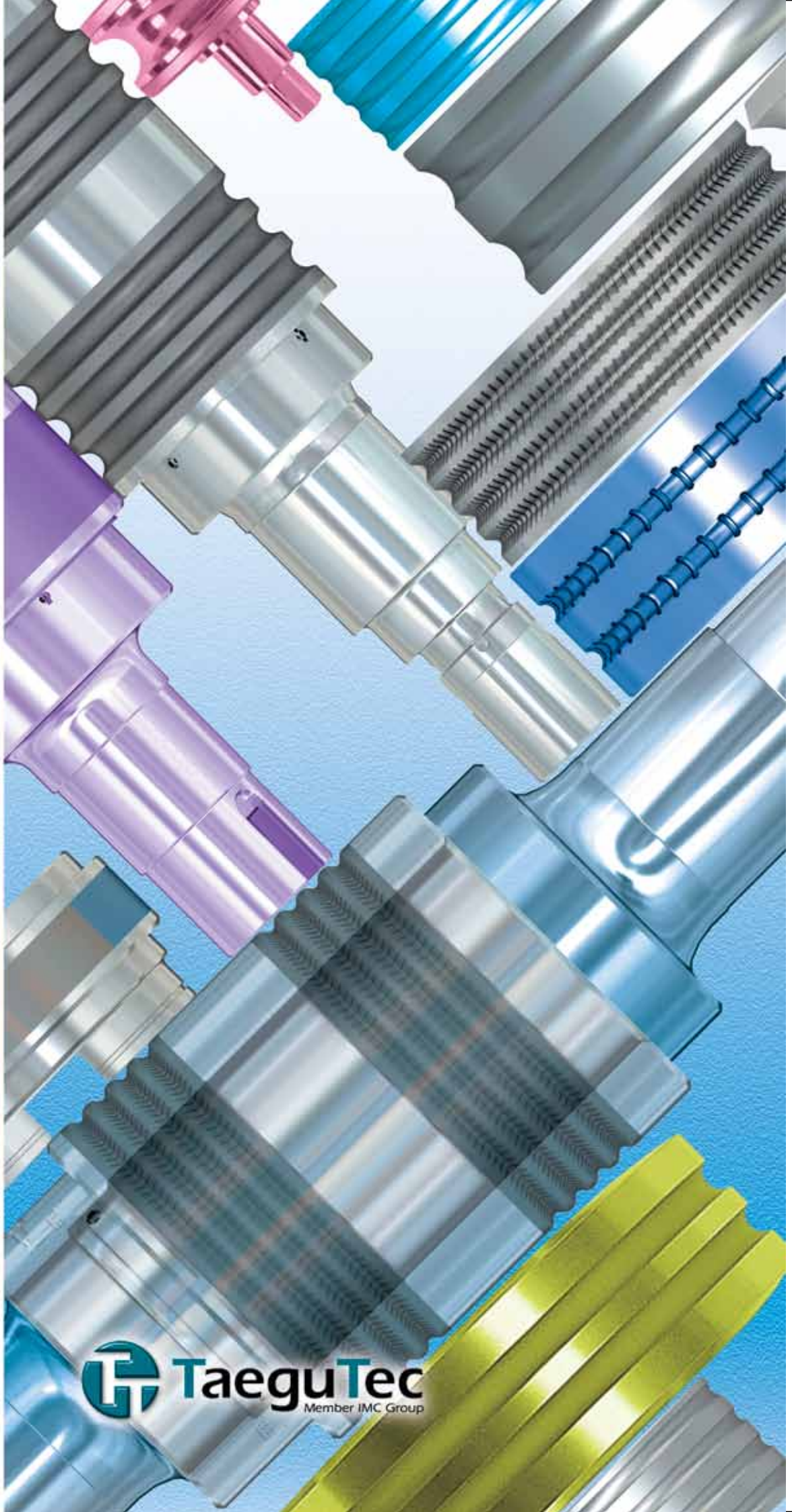


CARBIDE ROLLS

Rollinnovation[®]
A Brand New Roll Technology

 **TaeguTec**
Member IMC Group





Overview

TaeguTec's history began in April 1916 in Gangwon Do, South Korea after the Sang-Dong mine was discovered.

Since the mine's discovery, TaeguTec has been a market leading manufacturing company supplying cutting tools and industrial products such as tungsten carbide rolls and tungsten powder to the global manufacturing industry.





State-of-the-Art Facilities

The TaeguTec Roll production line is regarded as one of the biggest and most advanced automated Carbide Roll manufacturing plants in the world.

The facilities and systems at the Carbide Roll Plant enable TaeguTec to produce innovative products for a diverse range of applications throughout the steel industry.

New applications and innovations are continuously introduced to increase productivity to supply the increasing demand from our customers.

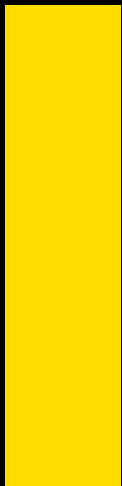
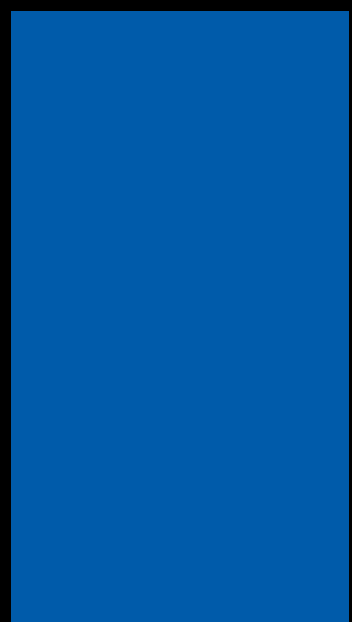
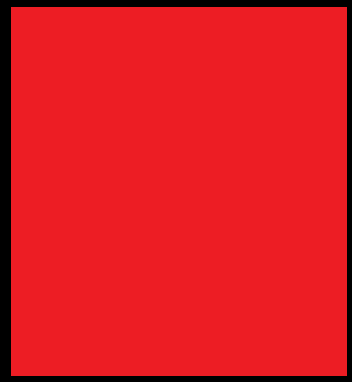
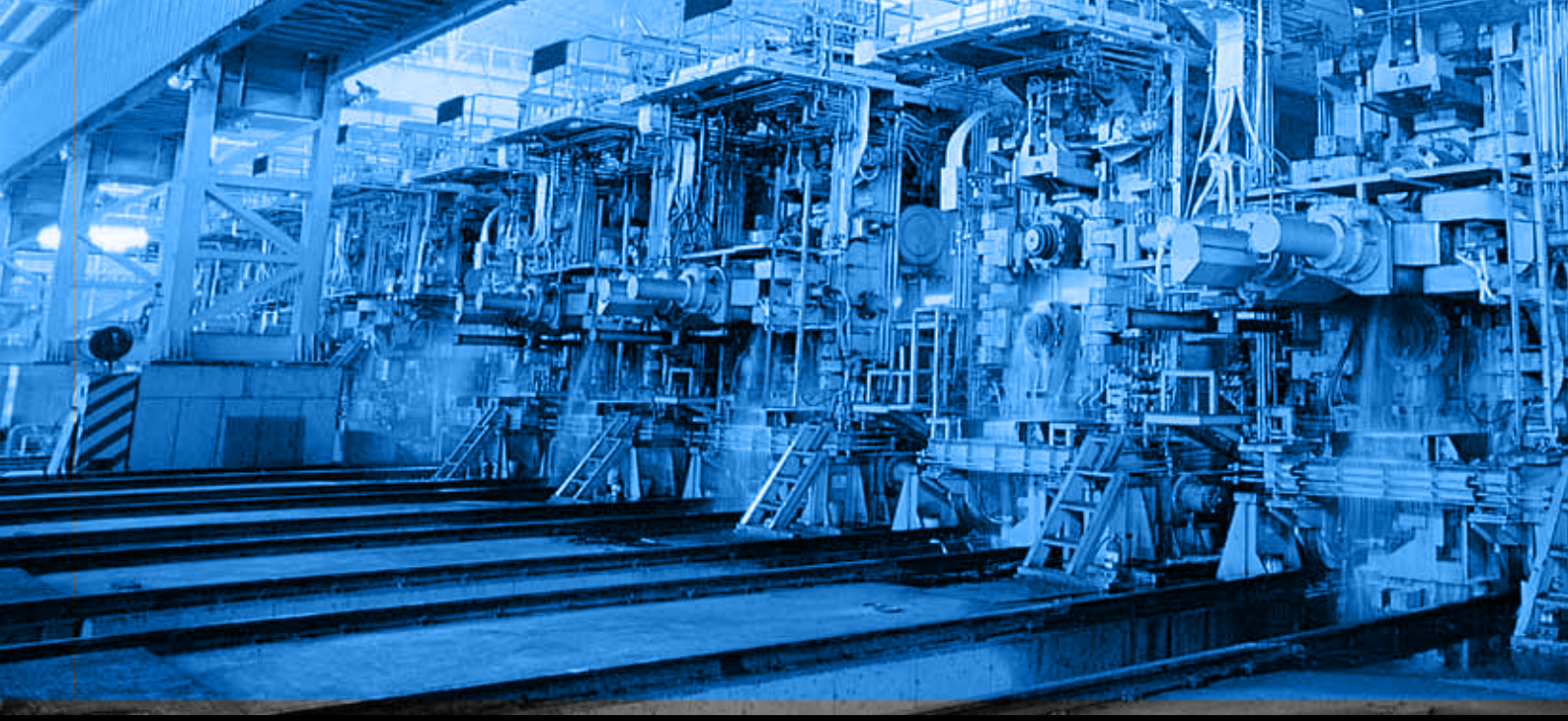
TaeguTec Carbide Rolls are acknowledged worldwide as the rolls consisting of the highest quality and most effective technology available in the market.

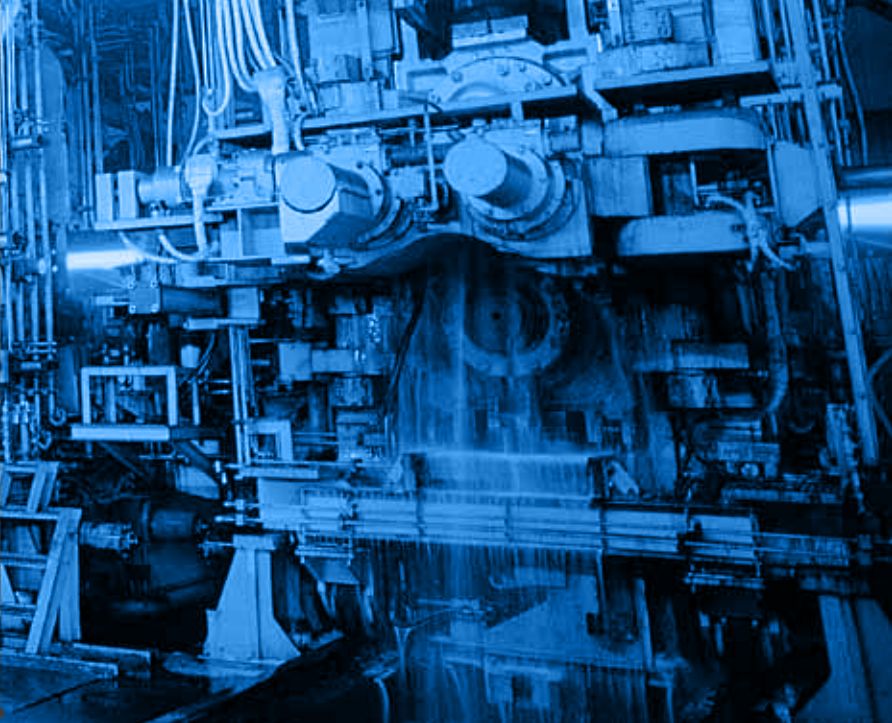


ISO 14001
Environment Management System



OHSAS 18001
Health & Safety Management System





Contents

■ Wire Rod & Round Bar

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● Wire Rod Mill

- ▶ Suitable for various applications from Finishing Block to Intermediate Mill.
- ▶ Higher productivity with excellent surface finish of final products through precise dimension control during rolling.
- ▶ Minimizes downtime for roll changes.



Intermediate Mill



CantileveRoll[®]
for Intermediate Mill

BlockRoll[®]
for Intermediate Mill





8" **BlockRoll**[®]
for Finishing Block



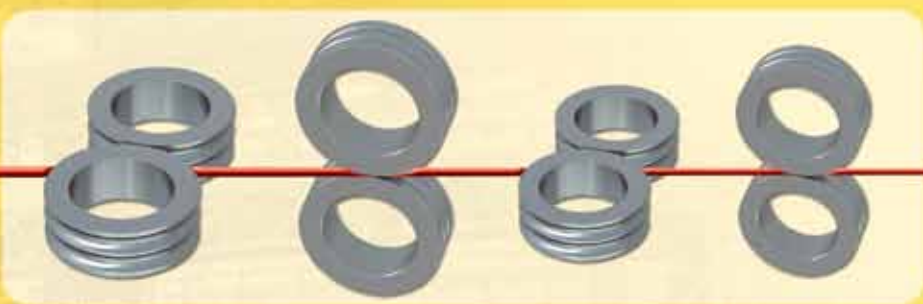
Guide Rolls



Pinch Rolls



Finishing Block



TriRoll[®]
for Reducing & Sizing Block



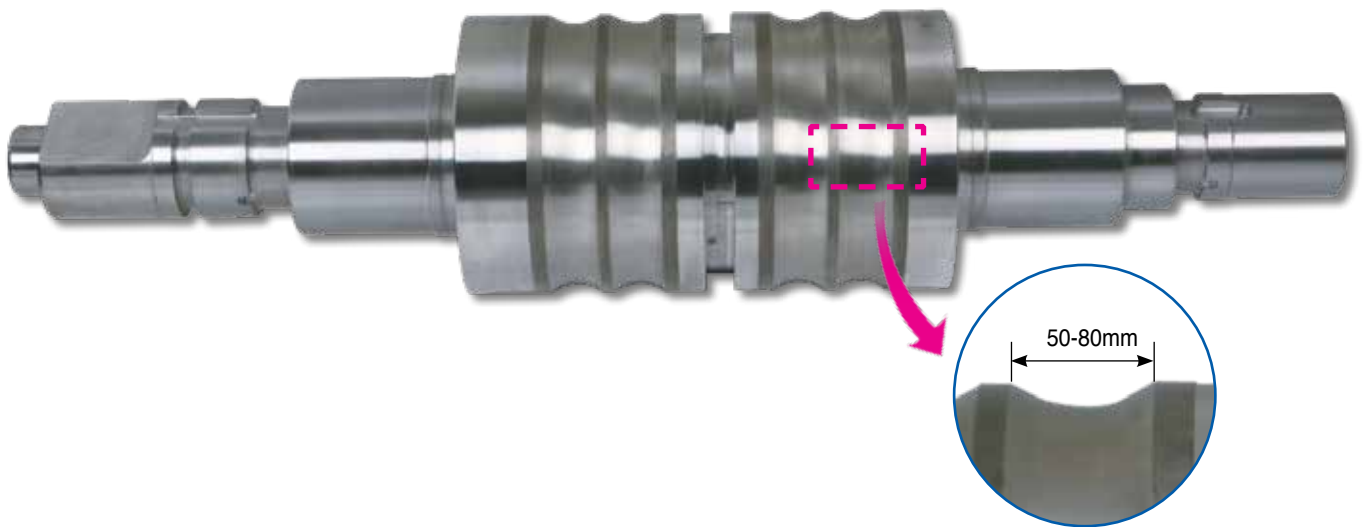
6" **BlockRoll**[®]
for Finishing Block



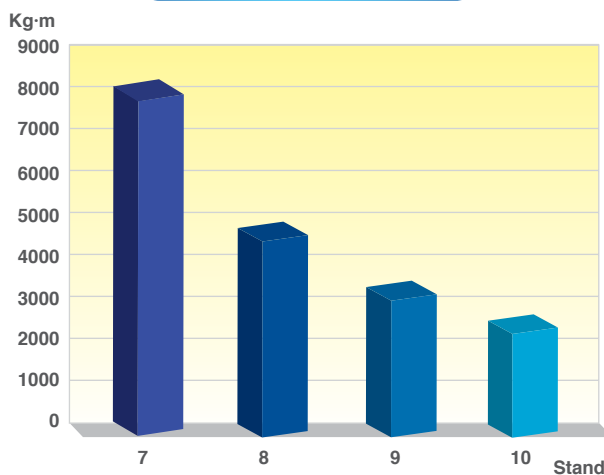
1. Intermediate Mill

TorqueRoll®

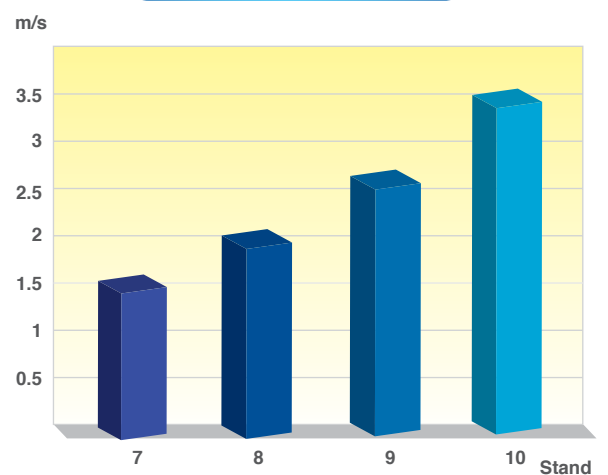
- ▶ Free from slippage even under high rolling torque & low rolling speed.
- ▶ Flexible and optimal design for every requirement.



Rolling Torque



Rolling Speed



Roll Size		Groove Dimension		Rolling Torque (kg·m)	Rolling Speed (m/sec)	Grade
Outer Diameter (Ømm)	Barrel Length (mm)	Type	Width(mm)			
350-500	500-900	Oval Round	50-80 30-50	1,500-8,000	Min. 1.5	T30M, T30S



CantileveRoll[®]

- ▶ In several grades with excellent toughness for high rolling torque & low rolling speed.



Roll Size		Groove Dimension		Rolling Torque (kg·m)	Rolling Speed (m/sec)	Grade
Outer Diameter (Ømm)	Width (mm)	Type	Width(mm)			
290-475	140-235	Oval Round	40-70 20-40	1,000-4,000	3-10	T30M, T27M, T23L

BlockRoll[®]

- ▶ In several grades with high crack-resistance & anti-oxidation.



Roll Size		Groove Dimension		Rolling Torque (kg·m)	Rolling Speed (m/sec)	Grade
Outer Diameter (Ømm)	Width (mm)	Type	Width(mm)			
330-450	100-130	Oval Round	30-80 20-50	1,000-6,000	1.5-12	T30M, T30S

2. Finishing Mill

TriRoll[®] for Reducing & Sizing Block

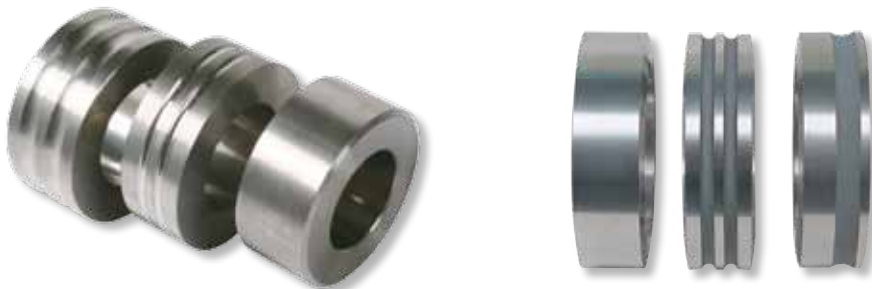
- ▶ In various grades for high performance with high surface finish enabling defect-free finished production.



Roll Size		Products		Rolling Speed (m/sec)	Grade
Outer Diameter (Ømm)	Width (mm)	Type	Final Size (Ømm)		
300-370	25-90	Oval, Round	13-42	5-20	T25H, T20M, T17L, T15M

BlockRoll[®]

- ▶ In grades for high wear-resistance.



Roll Size		Products		Rolling Speed (m/sec)	Grade
Outer Diameter (Ømm)	Width (mm)	Type	Final Size (Ømm)		
208-212	60-72	Oval Round	5.5-12	10-20	T20M, T20S, T17L
158.75-166	57.3-70	Oval Round		20-120	T15S, T14L, T11L

3. BlockRoll[®] with Grooves



BlockRoll[®] with Grooves

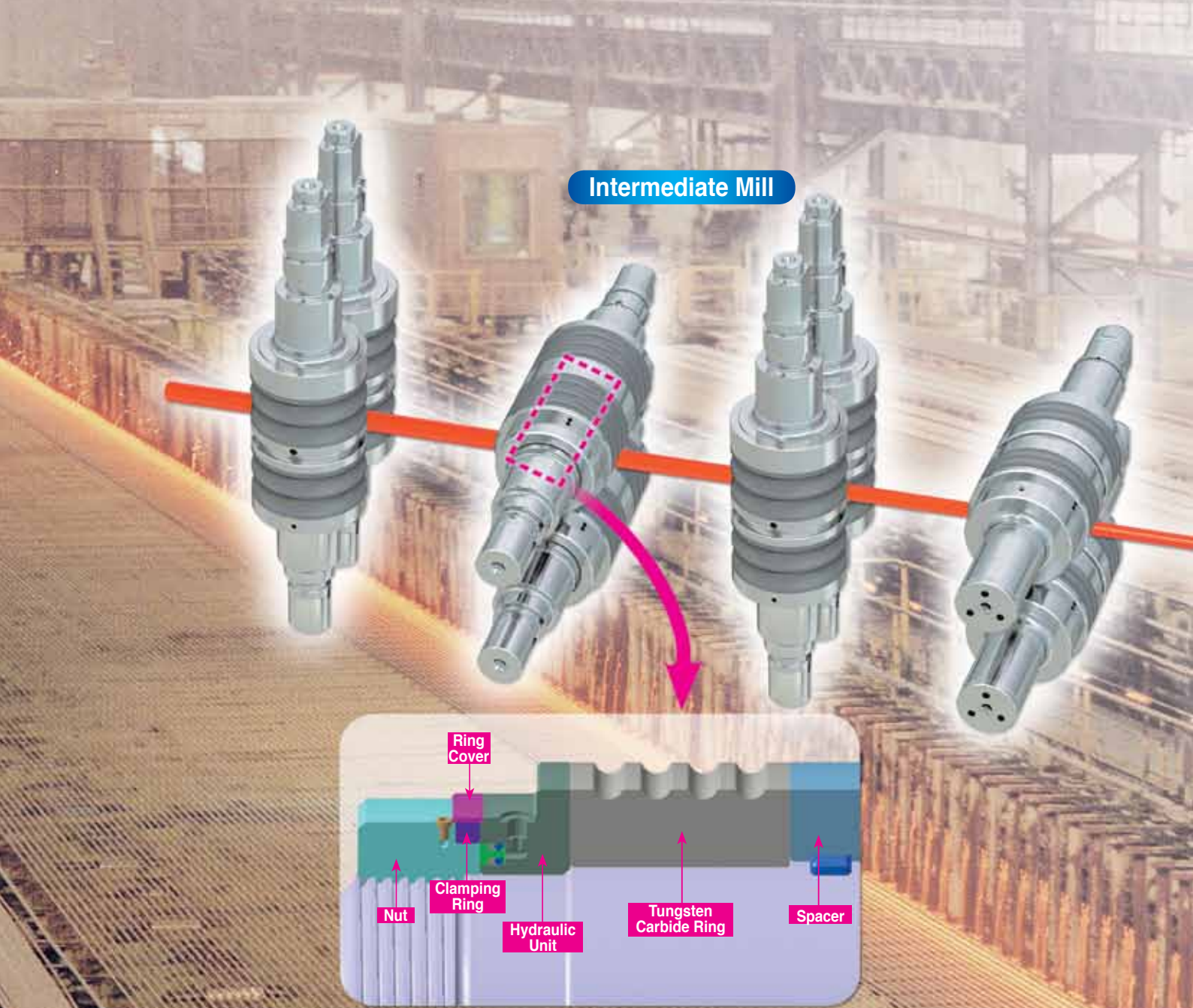
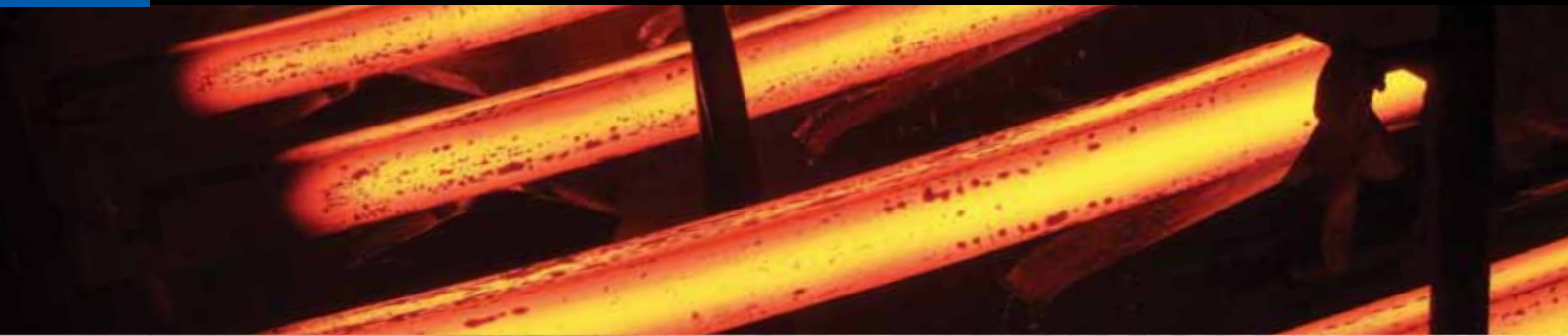
► All types of grooves available.



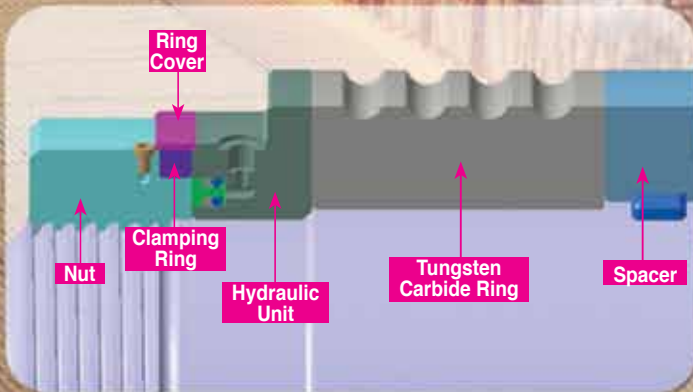
Application		Roll Size (Ømmxmm)	Groove Dimension			Tolerance(mm)	
Product	Mill		Width(mm)	Depth(mm)	Radius(mm)	Groove Dimension	Pitch
Wire Rod	Intermediate	Ø390 x 130	47.19	8.5	37	± 0.05	± 0.005
			28.98	11.5	13.6	± 0.05	± 0.05
		Ø330x95	36.59	6.5	29	± 0.05	± 0.05
			22.75	9	10.7	± 0.05	± 0.05
	Finishing	Ø210.5x72	23.47	4.7	17	± 0.05	± 0.05
			13.73	6.2	6.75	± 0.05	± 0.05
		Ø158.75x57.3	12.13	2.05	10	± 0.025	± 0.013
			6.43	2.24	2.96	± 0.025	± 0.013
Round Bar	Finishing(F1-F5)	Ø370x40	24.53	1.965	12.6	± 0.05	± 0.05
			21.02	2.39	12.01	± 0.05	± 0.05
			17.97	2.025	10.85	± 0.05	± 0.05
			14.69	2.74	9.7	± 0.05	± 0.05
			14.48	2.825	8.76	± 0.05	± 0.05

* Groove dimensions & tolerances that are not listed are available upon request.

● Bar Mill



Intermediate Mill



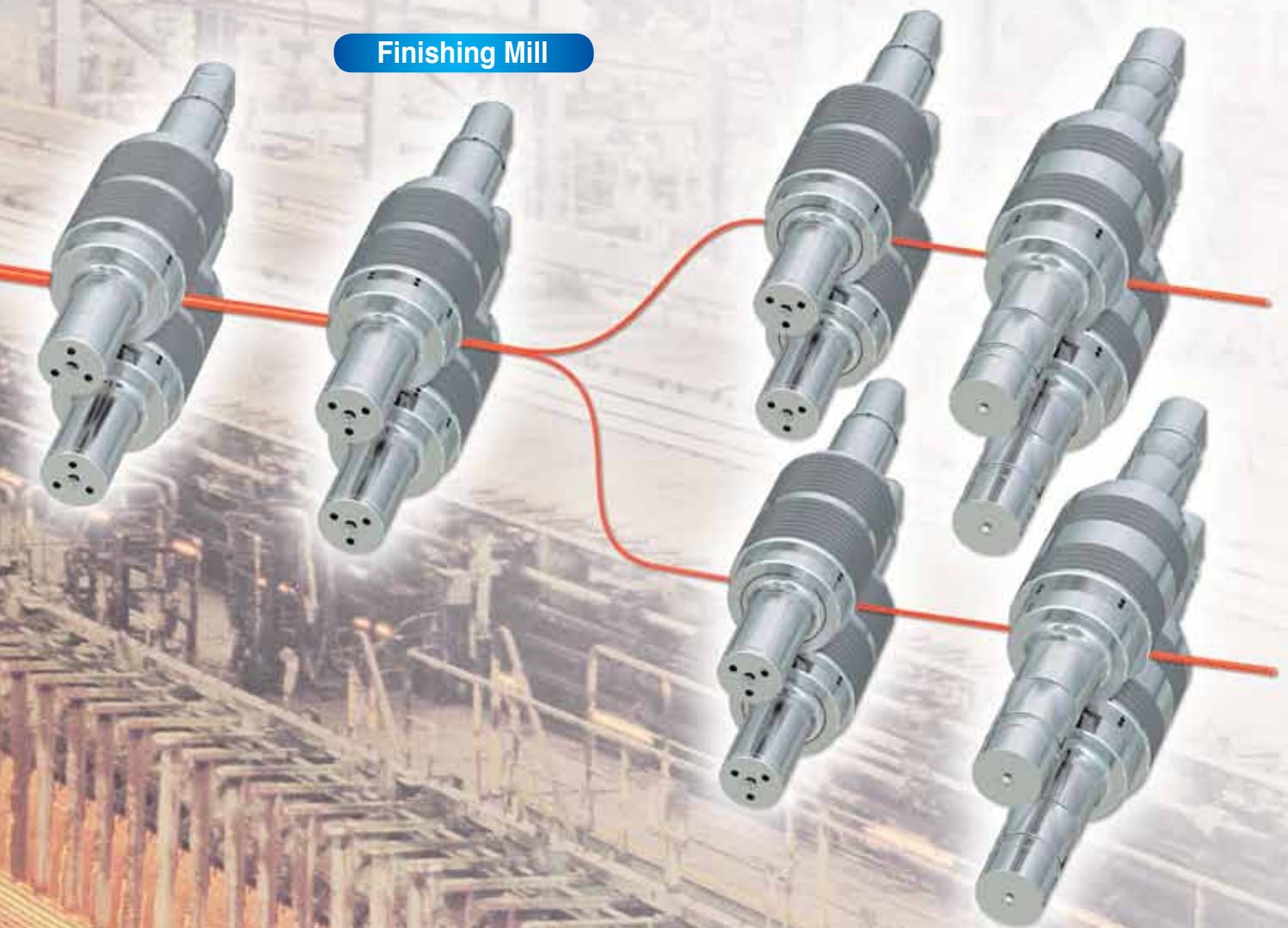
Structure of TaeguTec CompositeRoll®

- ▶ Applicable to various rolling stands due to excellent & unique design.
- ▶ Stable & reliable clamping technology.
- ▶ Unique & flexible design for different requirements.

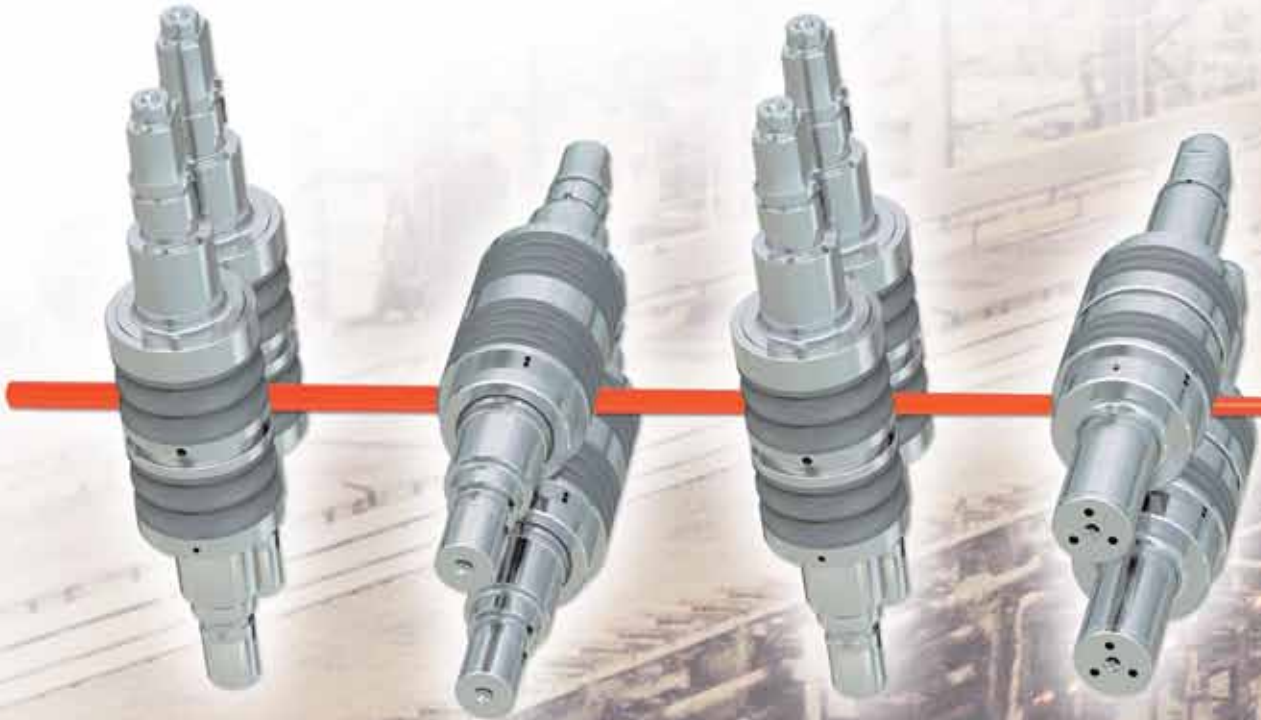


- ▶ Minimum downtime for roll changes due to longer groove life-cycle with carbide rolls.
- ▶ Easy to assemble & disassemble.
- ▶ No slippage under extreme working conditions of high rolling torque & low rolling speed.
- ▶ Reduced mill downtime → maximum productivity.

Finishing Mill



1. Intermediate Mill



Oval

Round

Oval

Square
(Diamond)



Grade : T30M



Grade : T30M

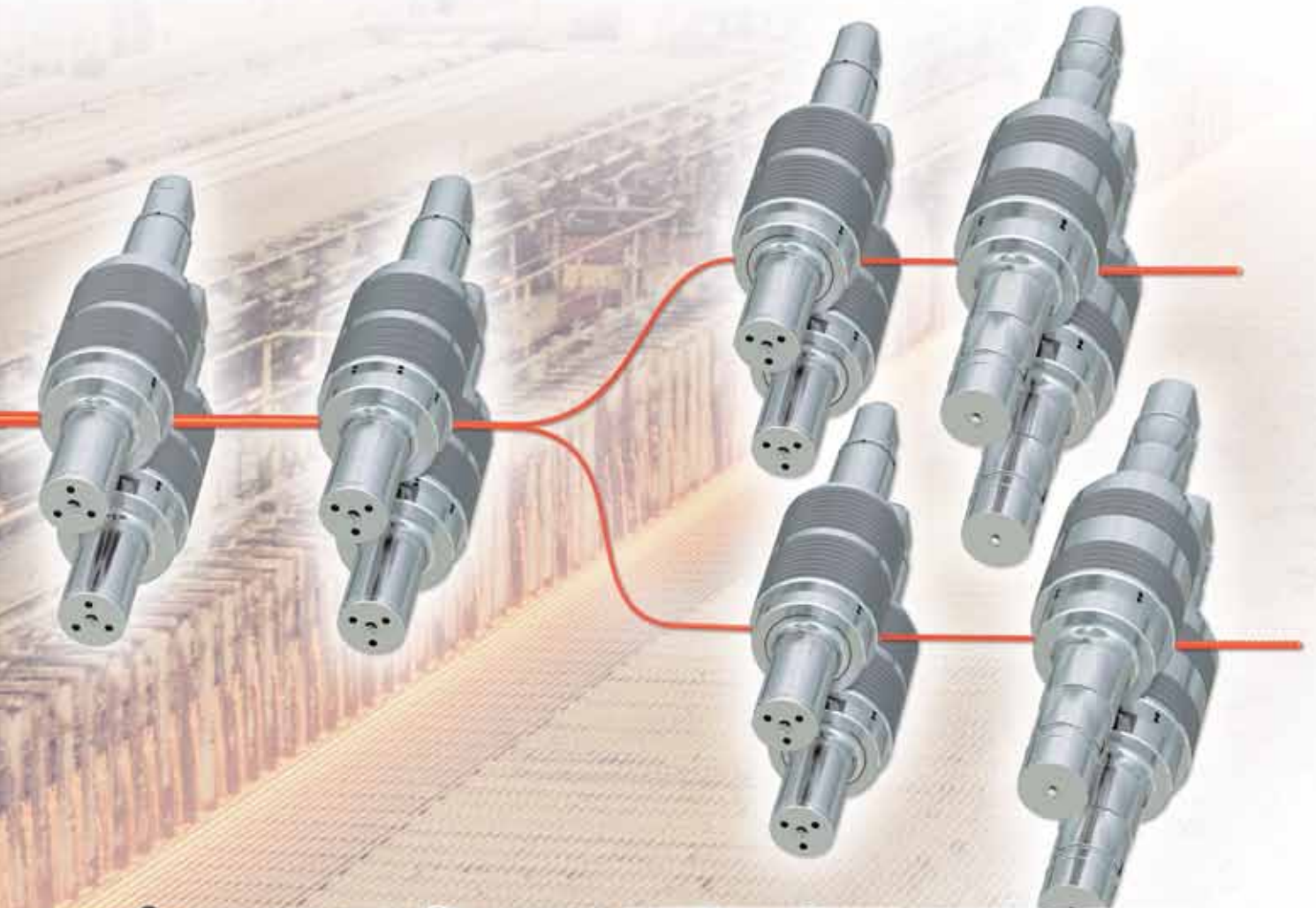


Grade : T27M,
T30M

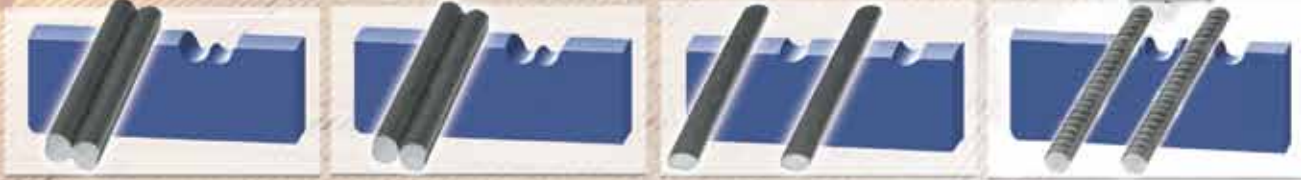


Grade : T30S,
T30M

2. Finishing Mill



Deformed Bar



Dogbone

Slit

Oval

Notch



**Grade : T30M,
T30S**

**Grade : T30H,
T31L**

Grade : T27M

**Grade : T30M,
T30S**

3. Finishing Mill for 4 Slitting

QuadSlitRoll™

- ▶ Improved grades which eliminate chipping at the sharp edge of Dog-bone & Slitting.
- ▶ Superior quality / longer groove life than steel rolls.



Dogbone



Grade : T30M, T30S



Slit



Grade : T31L



Oval



Grade : T27M,



Notch



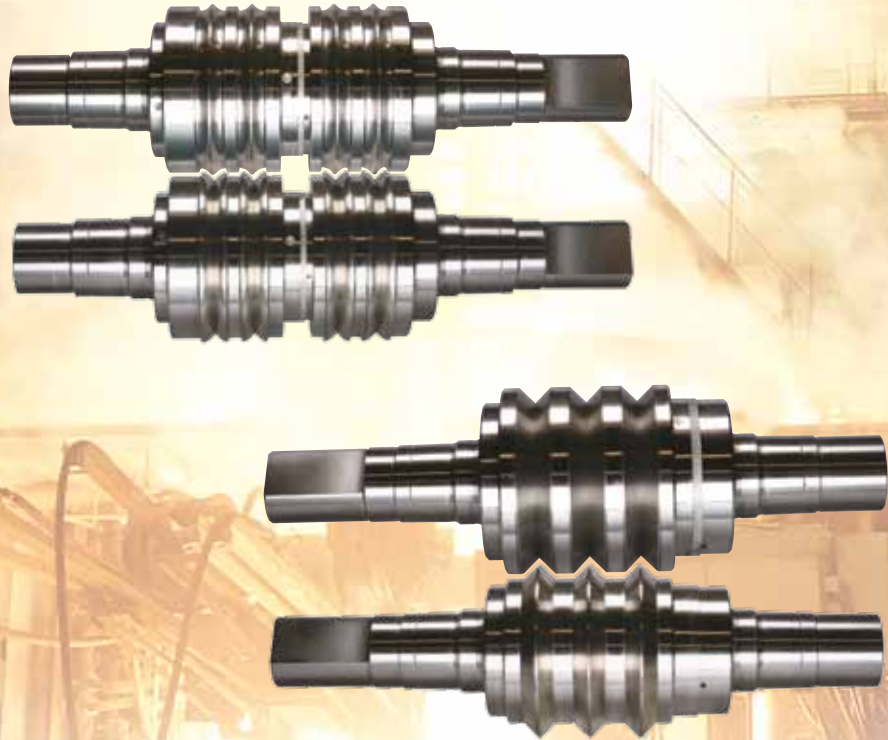
Grade : T30M, T30S

Section Mill



SectionRoll[®]

Angle Bars



Flat Bars



Item	Product Size	Roll Size		Grade
		Outer Diameter (Ømm)	Barrel Length (mm)	
Angle Bar	AB25-AB65	350-500	500-800	T30M, T30S
Flat Bar	50-150			

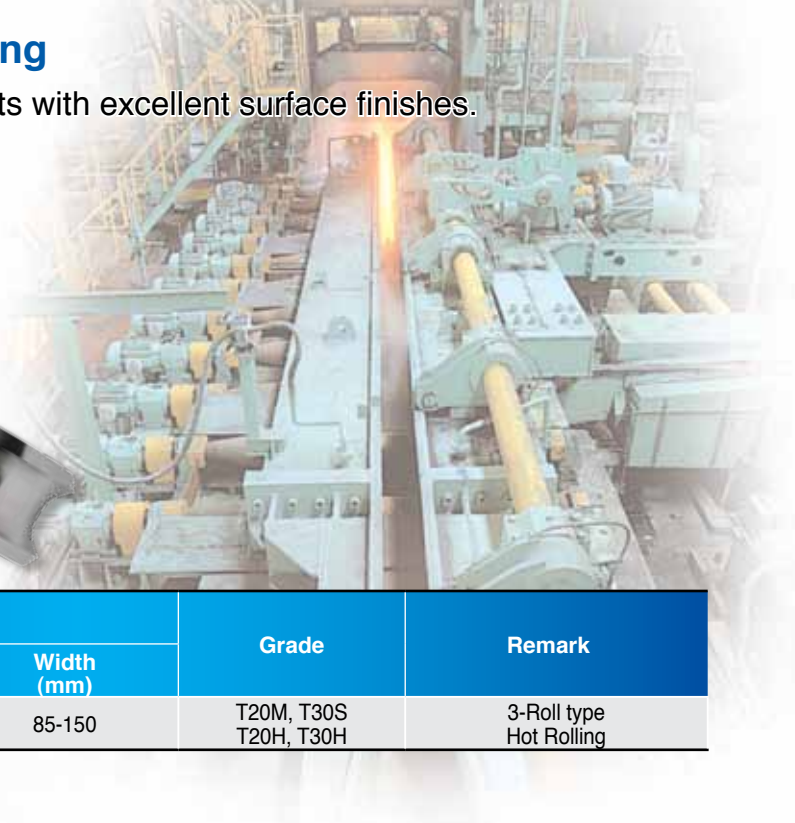
New Applications

● Tube Mill



TubingRoll[®] for Hot Rolling

► Guarantees quality improvements with excellent surface finishes.



Product Size	Roll Size		Grade	Remark
	Outer Diameter (Ømm)	Width (mm)		
Ø50-Ø120mm	270-380	85-150	T20M, T30S T20H, T30H	3-Roll type Hot Rolling

Rolls for Cold Rolling



Product Size	Roll Size		Grade	Remark
	Outer Diameter (Ømm)	Width (mm)		
Ø20-Ø70mm	150-250	80-120	T14L	2-Roll type Cold Rolling



Multi-Binder Grade

Grade	Chemical Composition		Physical Properties			Application	Old Designation
	WC(%)	Co-Ni-Cr(%)	Hardness (HRA)	TRS (Kg/mm ²)	Density (g/cm ³)		
T09L	91	9	87.0-89.0	230	14.4-14.8	Finishing Block & RSM for Wire Rod	-
T11L	89	11	85.9-87.9	230	14.2-14.6	Finishing Block & RSM for Wire Rod Al, Cu Rods	KHR05
T14L	86	14	85.1-87.1	230	13.9-14.3	Finishing Block & RSM for Wire Rod Al, Cu Rods	KHR30
T14M	86	14	84.8-86.8	210	13.9-14.3	Finishing Block & RSM for Wire Rod Al, Cu Rods	KHR30A
T15M	85	15	84.2-86.2	210	13.8-14.2	Finishing Block for Wire Rod & Round Bar	KHR10
T16H	84	16	82.9-84.9	230	13.7-14.1	Finishing Block & Pinch Roll for Wire Rod	KHR35
T17L	83	17	83.6-85.6	230	13.6-14.0	Finishing Block & Pinch Roll for Wire Rod	KHR40
T19L	81	19	82.9-84.9	230	13.4-13.8	Finishing Block & IFM for Wire Rod	KHR64
T20M	80	20	81.9-83.9	230	13.3-13.7	Finishing Block & IFM for Wire Rod	KHR60
T20H	80	20	81.7-83.7	210	13.3-13.7	Finishing Block & IFM for Wire Rod	-
T23L	77	23	81.4-83.4	230	13.1-13.5	IFM for Wire Rod & Prefinishing for Deformed Bar	KHR70
T25H	75	25	79.0-81.0	230	12.8-13.2	Prefinishing for Deformed Bar <i>SectionRoll</i> for Finishing	KHR75
T27M	73	27	78.8-80.8	210	12.7-13.1	Prefinishing & Square groove for Deformed Bar	KHR80
T30M	70	30	77.8-79.8	210	12.5-12.9	<i>TorqueRoll</i> for Wire Rod Finishing & Dogbone groove for Deformed Bar	KHR90
T30H	70	30	77.0-79.0	210	12.5-12.9	<i>TubingRoll</i> for Tube Mill Finishing for Deformed Bar	KHR90A
T31L	69	31	77.6-79.6	210	12.4-12.8	<i>QuadSlitRoll</i> for Deformed Bar	-
T32L	68	32	76.5-78.5	210	12.3-12.7	Finishing & Dogbone groove for Deformed Bar	KHR96

Single-Binder Grade

Grade	Chemical Composition		Physical Properties			Application	Old Designation
	WC(%)	Co(%)	Hardness (HRA)	TRS (Kg/mm ²)	Density (g/cm ³)		
T06S	94	6	87.1-89.1	180	14.5-14.9	Finishing Block & RSM for Wire Rod	KHR01
T10S	90	10	87.7-89.7	230	14.1-14.5	Finishing Block & RSM for Wire Rod	-
T15S	85	15	84.5-86.5	230	13.6-14.0	Finishing Block for Wire Rod & Round Bar	KHR31
T20S	80	20	82.9-84.9	230	13.2-13.6	Finishing Block & IFM for Wire Rod	KHR61
T25S	75	25	82.7-84.7	230	12.8-13.2	IFM for Wire Rod & Prefinishing for Deformed Bar	KHR81
T30S	70	30	79.6-81.6	210	12.4-12.8	<i>TubingRoll</i> for Tube Mill Finishing for Deformed Bar	KHR91

■ **World Headquarters**

304, Yonggye-ri, Gachang-myeon,
Dalsung-gun, Taegu, 711-860, KOREA
Tel: 82-53-760-7666 Fax: 82-53-768-9912
Web: <http://www.taegutec.com>

■ **INTERCAST GmbH**

Uerdinger Strasse 394-396 D-47800 Krefeld, Germany
Tel: +49-2151-1585-80 Fax: +49-2151-1585-52
E-mail: sener@inter-cast.de

■ **Mr. Gianantonio Pelizzari**

VIA ANDREA PALLADIO 23 25124 BRESCIA ITALY
Tel: 39-30-231-0335 Fax: 39-30-231-0335
E-mail: pelizzari.g@tin.it

■ **Eurosider Sistemas Y Servicios En Siderurgia, S.L.**

Manuel Lekuona, 20018 San Sebastian,
Gipuzcoa C.I.F. B-20123717, Spain
Tel: 34-943-213-033 Fax: 34-943-312-974
E-mail: jaeurosider@sarenet.es

■ **ARK Industry Products Trade Ltd**

Bagdat cad. No:530/9 34744 Bostanci, Istanbul, Turkey
Tel: 90-216-416-7510 Fax: 90-216-416-7514
E-mail: ark@atlas.net.tr

■ **Indeltech**

39, rue Foch, F-95150 Taverny, France
Tel : 33-683-56-1301 Fax : 33-130-40-7536
E-mail: delahais.patrick@wanadoo.fr

■ **First Engineering Overseas Co., LTD**

3 SOI UDOMSUK 39, SUKHMVIT 103 ROAD,
BANGJARK PHRAKANONG,
BANGKOK 10260, THAILAND
Tel: 662-748-8341 ~3 Fax: 662-398-6369
E-mail : charuvat@feothailand.com
sanisa@feothailand.com

■ **Viet Thai Engineering JSC**

Suite. 12A2 - Level. 13 – Silver Wing Tower
137A. Nguyen Van Cu - Long Bien - Ha Noi - Vietnam
Tel: 84-4-2220-7908 Fax: 84-4-2220-7909
Email: vtec-jsc@fpt.vn

■ **Origen Corporation Sdn Bhd**

11, Jalan Bandar 14, Pusat Bandar Puchong,
47100 Puchong, Selangor D.E, Malaysia
Tel : 603-5882-5203 Fax : 603-5882-5202
E-mail: ksachow@origen.com.my

■ **Zimmerman Scientific Co., Ltd.**

8 Fl., No. 127, Fu-Shin South Rd., Sec. 1,
Taipei 106, Taiwan
Tel: +886-2-27527075 Fax: +886-2-27719415
Email: zimmerman@ms1.hinet.net
Website: www.zimmerman.com.tw

■ **Metal Trade International**

"Kuber Garden" Flat-3D, 3rd Floor, 27/1A,
Harish Mukherjee Road,
Bhowanipore, Kolkata - 700 025, INDIA
Tel: 91-33-2455-2130 / 2455-5048
Fax: 91-33-2455-1330
E-mail: mti@cal.vsnl.net.in

■ **Mr. Mike Klingensmith**

33950 Jackson Road
Moreland Hills, Ohio 44022, USA
Tel: 216-406-0582
E-mail: mike@taegutec.us.com

■ **CAPSA**

Workspace Valle
Alfonso Reyes 2615 – 909, Col. Del Paseo Residencial
Monterrey, N.L. CP 64920, Mexico
Tel: +52 81-8357-2288 Fax: +52 81-8349-5568
E-mail: taegutec@capsagpo.com

■ **ICD Reata Representação Ltda**

Rua Capitão Melo, 167 – Loja 06 – Stella Maris
Salvador – BA CEP 41600-610, Brazil
Tel: + 55 71 3022 0323 Fax: + 55 71 3374 0323
Mobile: + 55 71 7811 7798 & 8179-4324
E-mail: Edson.taegutec@icd-reata.com.br,
tatiana.taegutec@icd-reata.com.br
Web: www.icd-reata.com.br

■ **TaeguTec Argentina**

11 De Septiembre De 1888 NRO
4237 Piso 7 Ciudad Autonoma,
Buenos Aires Argentina
Tel: +54 11 4702-6222
E-mail: amicheletti@taegutec.com.ar

■ **Sulzgitter AG**

119571 Russia, Moscow,
92 Vernadskogo ave., office 224.
Tel /Fax: +7 (495) 6636351
E-mail: sulzgitter@gmail.com

■ **Mr. Ki-Young Choi**

212030, Bialynitskaga-Biruli, 11, Mogilev, Belarus
Tel. +375 222 27 93 67, +375-291 819533
Fax. +375 222 28 01 49
E-mail : belkorea@hotmail.com

■ **IMC International Metalworking Engineering & Production (Dalian) Co.,Ltd.**

62# Tie Shan Zhong Road, Dalian Development Area,
Dalian, China
Tel :+86 0411 8793 6337 Fax: +86 0411 8793 6400
Mobile: +86 138 4261 6361
E-mail: denggang@imc-companies.com.cn



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