

BRIGHT BURNISHING TOOLS

EXPORTERS OF ROLLER BURNISHING TOOLS



Advantages of Burnishing

- ◆ Mirror like surface finish
- ◆ Dimensional repeatability
- ◆ Single pass operation
- ◆ No rejections & reworks
- ◆ Very low operating costs



Bright Burnishing Tools - World Class Manufacturer and Exporter of roller burnishing tools

Bright Burnishing Tools Private Limited (BBTPL) was incorporated in the year 1994 with an intent to carve a niche in the new arena of "Burnishing Tools" and has with sustained efforts, achieved it over the period through the intensive concept selling and aggressive sales promotional measures.

Promoter :

The Bright Burnishing Tools was founded by Mr. Devraj C., a technocrat engineer who has specialized in "Tools & Dies" and worked in higher echelon of the management in a premier corporate entity in Coimbatore, India. He has over 30 years of experience in tooling line. He had a stint of few years in Switzerland, prior to formation of BBTPL, on "Deputation" for advanced training and has proven his mettle in implementing the imparted training successfully.

Besides being a specialist in "Tools and Dies", he also designed and manufactured wide range of Multi-specialty Tools, Jigs, Fixtures, Cutting Tools and Specialized Burnishing Tools and Machines.

Infrastructure & Team:

The organizational structure is basically trifurcated which constitutes Production, Quality Management System, General Management and Marketing. We have specialized machines in-house for multifarious operations and are well manned by the qualified engineers, supervisors and quality controllers. We also have an independent department, which handles quality inspection and testing of the tools and machines. The burnishing tools, being of tailor-made, are manufactured with utmost diligence and are ensured of trouble-free while in operation.

Besides the full fledged burnishing tools manufacturing setup, our company also focuses with the keen intent to upgrade ourselves to the changing functional and market requirements and has a R&D department comprising of professionals drawn from various entities and institutions both on resident and consultancy basis. Our department has proved with our product applicability to various industries since the inception of the company.

Multi Roller

Internal Diameter Burnishing Tools (Through & Step Bore Tools)

- Tools for through and stepped bores.
- Min. Internal Dia: 5 mm and above
- Designs available for:
 - » Short bore length (SH Series)
 - » Long bore length (LG Series)
 - » Big internal dia (UNL series)
- Tools with machine feed / salt feed designs available
- Tools available with different shank options



Outer Diameter Burnishing Tools (Plain & Stepped Shaft Tools)

- Tools for through and stepped shafts.
- » Plain shafts (EXT-P Series)
- » Stepped shafts (EXT-S Series)
- Min. External Dia: 2 mm and above
- Tools available with different shank options
- Highly suitable for diameters less than 30 mm and with short burnishing length



Array Process Instruments

Burnishing Tools

Taper / Angle Burnishing Tools (Internal & External Angle / Taper)

- Tools for
 - » internal tapers
 - » external tapers
- Min. Minor Dia: 5 mm and above
- Highly suitable for mating taper assembly, like hydraulic end fittings
- Can be burnished directly after CNC turning
- Tools available with different shank options



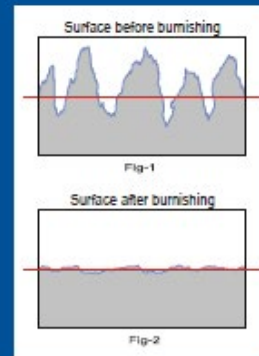
Flat Circular Face Burnishing Tools

- Tools for flat circular faces
- Job with min. center hole dia 5 mm and above can be burnished
- Highly suitable for face sealing applications
- Tools available with different shank options



WHAT IS ROLLER BURNISHING

The surface of metal parts worked through turning, reaming or boring operations is a succession of "PROJECTIONS or PEAKS" and "INDENTATIONS or VALLEY" when microscopically examined (see Fig. 1). The Roller Burnishing Operation compresses the "Projections (Peaks)" into the "Indentation" (Valleys) thus forming a smooth mirror finished surface (as in Fig. 2). Any material not exceeding 40 Rockwell Hardness "C" can be rolled burnished.



Bright Burnishing Tools - Quality Management System

Bright Burnishing tools is the first company in India to achieve ISO Certification in the roller burnishing tools segment. The certificate is for Design, manufacture, service and marketing of all types of Burnishing Tools. At present Bright Burnishing Tools has upgraded quality management system to ISO 9001:2000 version. By this, Bright Burnishing Tools is able to control processes at Incoming, In-process and Final Stages.

Single Roller Burnishing Tools

Single Roller Carbide Tool (SRT) for Outer Diameter



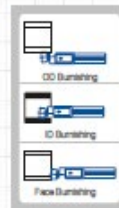
- Single roller OD tool (SRT) is used to burnish outer diameter of shafts
- Both plain and stepped shaft can be burnished
- Single tool can be used to burnish various sizes of OD
- Can be burnished after CNC turning
- This tool can be used for job diameter 75 mm and above
- Tools available with different shank options



Multi Surface Single Roller Carbide Tool (MSRT)



- Single roller multi surface tool (MSRT) is used to burnish all three profiles
 - » big outer diameters
 - » big internal diameters
 - » big flat circular faces
- This tool is highly suitable for batch production
- This universal tool can be used in conventional and CNC lathes
- Internal diameter greater than 75 mm can be burnished with this tool



Single Roller 'H' - Type Tool for Outer Diameter



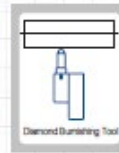
- Single roller 'H' Type tool is used to burnish smaller size outer diameters
- Single tool can be used to burnish various sizes of OD
- Both plain and stepped shafts can be burnished
- This tool can be used for job diameter between 20 and 75 mm
- Can be burnished after CNC turning



Diamond Burnishing Tool (DBT) (For Hard Part Finishing)



- Diamond burnishing tool (DBT) is used to burnish outer diameters where job is heat treated and the hardness is upto 65 HRc
- Special diamond burnishing tool can also be designed for burnishing internal diameters
- Highly suitable for hard part finishing to mirror like surface finish
- Single tool can be used to burnish various sizes of OD
- Both plain and stepped shaft can be burnished
- Tools available with different shank options



Array Process Instruments

Special Burnishing Tools

Special Multi Surface Single Roller Carbide Tool (MSRT)



Special Groove Burnishing Tools



Single Roller External Groove Burnishing Tool



About The Tools

BRIGHT Roller Burnishing Tools generally consists of a series of tapered and highly polished precision rollers made of High Speed Steel or Carbide material, positioned in slots with a retaining cage. The rollers rotate around on an inversely tapered mandrel. The tool or part can be rotated at optimum speed to develop pressure that exceeds the yield point of softer work piece to get desired results.

Advantages For Roller Burnishing

1. Mirror like surface finish

Surface finish ranging from $0.05 R_a$ - $0.2 R_a$ can be achieved easily by using Bright Burnishing Tools. Both ferrous and non-ferrous materials can be Roller Burnished in soft stage, Heat Treated components cannot be burnished.

2. Dimensional Consistency / Repeatability

Very close and consistent dimensional tolerance can be achieved in several thousand components by using Bright Burnishing Tools. Assembly problems are totally eliminated since part dimensions are maintained within tolerances.

3. Single Pass Operation

Since the roller burnishing process is a single pass operation manufacturing cycle times can be reduced compared to other fine finishing operations such as grinding, honing or lapping.

4. Increase in Surface Hardness

Since Roller burnishing operation is cold rolling process, work hardening takes place on the cold worked surface. Roller Burnishing gives a better wear resistance on the rubbing surfaces thereby part service life increases.

5. Reduces the Reworks and Rejections

Control of tight tolerances and high surface finishes using conventional techniques such as boring or reaming can be difficult, especially in a mass production situation. Bright Burnishing tools can eliminate these problems by providing high repeatability in finishing and sizing. Pre Burnishing sizes can be easily achieved by conventional machining methods. With Burnishing process close tolerances can be achieved in high volume production without reworks and rejections.

6. Multiple Usage

You can use Bright Roller Burnishing Tools in CNC Turning centers and CNC Machining centers, Conventional Lathes, Drilling Machines, Automata, etc. You can also use burnishing tools in specially built burnishing machines for mass production.

HOW TO GET GOOD RESULTS

Burnishing is a Cold Rolling Process without actual removal of metal. Hence, it is important to control the pre-burnishing stock allowance and surface roughness to desired levels to obtain the best burnished surface finish.

Specials

Concave Profile
Burnishing Tool



Convex Profile
Burnishing Tool

Face Groove
Burnishing Tool



External Ball Race
Burnishing Tool



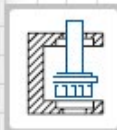
Internal Ball Race
Burnishing Tool



Tool for Combined
Internal & External
diameter



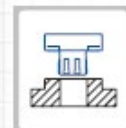
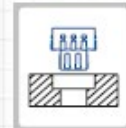
Detachable Type
Burnishing Tool



Tool for Combined
Internal Diameter



Tool for Combined Internal
Diameter and Face



Face Groove
Burnishing Tool



Internal Diameter Tool
with BT40 Shank



Array Process Instruments

Ball Broach Type
Burnishing Tool



Double Taper
Burnishing Tool



Sizing & Finishing Tool



ID Tool with Extra Long
Burnishing Length



Applications of Burnishing

- Precision Automobile Components
- Precision Turned Components
- Hydraulic & Pneumatic Components
- Motor and Pump Parts
- Computer and Peripheral parts
- Home Appliances Components
- Agriculture and Farm Equipment Components
- Machine Tool Parts
- Textile Machine Parts
- Railway Wagon and Engine Parts
- Aircraft Parts
- Defense Vehicle and Equipment Parts

Surface Finish Comparison of different process

Operation	Burnishing	Honing	Grinding	Reaming	Boring	Turning
Surface Finish (Ra)	0.05 - 0.2	0.1 - 0.2	0.2 - 0.4	0.4 - 0.6	0.8 - 1.2	1.5 - 2.00
Diameter Change (mm)	0.025	0.063	0.063	0.250	0.50	0.95

Stock Allowance Chart

Diameter	Stock Allowance
5 - 12 mm	0.01 - 0.02 mm
13 - 25 mm	0.013 - 0.020 mm
26 - 50 mm	0.013 - 0.025 mm
50 and above	0.018 - 0.035 mm

Surface Finish Chart

Ra	R max	Rz	N	Triangle Mark
0.0013 _a 0.025 _a 0.05 _a 0.10 _a	0.05 _a -0.01 _a 0.2 _a 0.4 _a	0.05 _a 0.1 _a 0.2 _a 0.4 _a	N1 N2 N3	▼▼▼▼
0.20 _a 0.40 _a 0.80 _a	0.8 _a 1.6 _a 3.2 _a	0.8 _a 1.6 _a 3.2 _a	N4 N5 N6	▼▼▼
1.6 _a 3.2 _a 6.3 _a	6.3 _a 12.5 _a 25.0 _a	6.3 _a 12.5 _a 25.0 _a	N7 N8 N9	▼▼
12.5 _a 25.0 _a 50.0 _a	50.0 _a 100.0 _a 200.0 _a	50.0 _a 100.0 _a 200.0 _a	N10 N11 N12	▼

OTHER PRODUCTS

**Roller Burnishing
Machines**



**Front & Back
Chamfering Tool**



**Adjustable Blade
Reamer**



**Precision Depth
Control Tool**



**Recessing
Tool**



**Floating
Holder**



Our sales network in India:

Punjab • Delhi • Rajkot • Ahmedabad • Surat • Mumbai • Pune • Hyderabad • Bangalore • Hosur • Chennai • Coimbatore

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