Productivity in Action
Tough Tools for Tough Jobs

Sandvik Construction manufactures a full line of tools and accessories for the trenching, road planing, reclaiming industries. Our tools are manufactured globally to the highest quality standards, using the strongest materials and most stringent manufacturing processes.

Headquartered in Stockholm, Sweden, and established in 1862, Sandvik is a high-technology engineering group and the world’s leading manufacturer of tungsten carbide tools for the construction, mining and drilling industries.

We take special care in the manufacturing process to ensure that the cemented tungsten carbide in Sandvik’s tools will meet our customers’ demanding needs. The tungsten carbide is processed through a proprietary method to maximize its strengths and brazing properties. A special brazing/heat treatment bonds the tungsten carbide to high-grade alloy steel to ensure the hardness of the steel – and the superior performance of these tools in the field.

You can be confident that Sandvik tools will always provide maximum productivity and efficiency and that we will back them with the most dedicated customer and technical support in the industry.

As a world leading supplier of drilling, excavation, mining, tunneling, crushing and screening machinery, and equipment and tools for the mining and construction industries, only Sandvik can offer customers the entire package – products, service and expertise. We use our 150 years of experience and our comprehensive product line to create value for our customers through relationships that combine hands-on knowledge of our customers’ processes with our own real-world applications knowledge – proven around the world.

NOTE: This is the 2013 catalog for Sandvik grading tools and all data are current at time of printing. Visit our Web site at www.construction.sandvik.com to learn more about our services and to check for any updates on the tools and products listed here. Periodic technical bulletins may be issued with updates.
APPLYING OUR CARBIDE EXPERTISE

Sandvik Construction is the world’s leading supplier of machines and tool systems for all rock, surface and mineral excavation applications. Sandvik delivers millions of tools annually, including everything from small road planing, ice scraping and roof drilling bits used in all types of coal and soft minerals, to the biggest tunneling, trenching and surface mining tools.

Sandvik continues to develop new hard material alloys to meet today’s demanding environments. An extensive research project within Sandvik has resulted in a new generation of carbide grades and new larger, stronger, more stable and efficient tools. The demand on tool performance, especially pertaining to the cemented carbide tip material and its resistance to wear and fracturing, becomes more critical as we progress into harder rock and mineral formations. Larger continuous cutting machines are being used to replace the drill and blast process in many tunneling and construction projects. The continuous process offers a lower cost per ton of excavated material, assures maximum worker safety and has a positive effect on the environment.

PROVIDING THE TOUGHEST CARBIDE IN THE INDUSTRY

This latest generation of patented carbide grades is manufactured using an innovative process technique with completely new raw materials. This process has made it possible to create new extra-coarse, super-tough alloys with perfectly uniform grain structure. It has also allowed Sandvik to better match tip material grade to hard rock and soft rock applications.

The creation of this carbide, with a significantly stronger carbide matrix and a perfect grain size configuration, has contributed to the superior toughness and high-temperature wear resistance experienced in a great number of operations.

The Sandvik range of standard grades are cost effective in all general surface and underground applications and meet or exceed the performance of competitive brands.
Applications & Performance

**APPLICATIONS**

The Sandvik System 2000® road grading maintenance system is designed to fit most motor graders and can handle a variety of applications.

- Gravel reclamation
- Gravel maintenance
- Oil road reclamation
- Asphalt planing
- Ice and snow removal
- Removal of potholes and washboards on dirt and gravel roads

**PERFORMANCE**

The System 2000 was developed to improve the performance and productivity of your motor grader. The System 2000...

- Features heat treated boards for optimal wear resistance
- Provides a better mix of materials
- Cuts out ruts and washboards
- Breaks up rocks in the roadway
- Rehabilitates oil and calcium chloride roads
- Cuts ice and snow
- Cuts through crust, rocks and ice easier and faster than conventional systems
- Offers easy field maintenance
- Reduces equipment costs
- Replacement tools last as long as 5-15 sets of conventional blades
- Greatly reduces downtime
- Incorporates the unique back-blading capability that is the only one of its kind in the marketplace
Carbide Tips

**INSERT CARBIDE TIPS**
Insert carbide tips are best suited for penetration applications where steel wash is not an issue. These tips are ideal for use in hard, high-impact conditions.

*Available on 25mm tools only

![Image of NP13 tip]

**NP13**
- 0.602" (15.3 mm)
- 0.907" (23.0 mm)

**VALVE-SEAT CARBIDE TIPS**
Valve-seat carbide tips have a valve-seat braze joint for increased strength and shear resistance. The tips provide excellent penetration, and the large carbide shoulder gives excellent protection against steel wash. These tips are best suited for use in medium to hard conditions.

![Image of NP28 tip]

**NP28**
- 0.638" (16.2 mm)
- 0.567" (14.4 mm)
- 0.665" (16.9 mm)
- 0.788" (20.0 mm)

![Image of NP01 tip]

**NP01**
- 0.638" (16.2 mm)
- 0.473" (12.0 mm)
- 0.918" (23.3 mm)
- 0.945" (24.0 mm)

![Image of NP27 tip]

**NP27**
- 0.945" (24.0 mm)
- 0.665" (16.9 mm)
- 0.788" (20.0 mm)
- 0.918" (23.3 mm)
- 0.945" (24.0 mm)

![Image of NP70 tip]

**NP70**
- 0.945" (24.0 mm)
- 0.669" (17.0 mm)
- 0.918" (23.3 mm)
- 0.945" (24.0 mm)

![Image of NP23 tip]

**NP23**
- 0.945" (24.0 mm)
- 0.669" (17.0 mm)
- 0.918" (23.3 mm)
- 1.300" (33.0 mm)

![Image of NP20 tip]

**NP20**
- 1.300" (33.0 mm)
- 1.110" (28.2 mm)
- 1.412" (35.9 mm)

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<th>STANDARD DUTY</th>
<th>STANDARD DUTY</th>
<th>STANDARD DUTY</th>
<th>HEAVY DUTY</th>
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<td>ICE</td>
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*These are general guidelines. Products may vary depending on actual conditions. Contact your local representative for more information.*
Productivity Squared

Sandvik System 2000® is a high-tech road rehabilitation cutting system ideal for maintaining rural roads (e.g. ice, dirt, gravel, hauling roads). System 2000 increases productivity, essentially eliminating downtime. It works by utilizing a replaceable conical tool installed in a heat-treated adaptor board that allows better wear resistance and improved cutting capability over conventional steel blades.

In addition to the integral end protector—which always leaves cutting edges straight—the latest innovation to the System 2000 is a unique patent-pending square washer that further increases productivity.

**New System 2000 Square Washers With Interlocking Feature**

For 22 mm and 25 mm tools

**Benefits of Sandvik grading tools with NEW square washer:**

- New “gear tooth” arrangement prevents washers from sliding and opening a gap between the tools
- Compatible with old style square washer and end protectors
- Pre-compressed retainer for easy installation
- Enhances tool rotation
- Eliminates washer rotation, preventing wear between washer and mating surface
- Provides support and stability to the tool with an extruded cone that fits neatly in the bore of the adaptor board
- Serves as a replaceable “armor plate” wear surface

**SYSTEM 2000 TOOLS WITH SQUARE WASHERS.**
**22 mm System**

**1.50” Tool Spacing**

### STANDARD BOARDS (1.50” (38.1 mm) TOOL SPACING)

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<tr>
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<th>BOLT SIZE</th>
<th>TOOL CAPACITY</th>
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### UNDERBODY BOARDS* (1.50” (38.1 mm) TOOL SPACING)

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* BEVEL CUT ON BACK OF BOARD FOR TRUCK UNDERBODY BLADES

### END PROTECTORS*

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<th>LENGTH</th>
<th>BOLT SIZE</th>
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* FOR 22 mm STANDARD & UNDERBODY BOARDS ONLY

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**GW01**

K1LW-2244-0169

**GW28**

K1LW-2244-2869

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22 mm System

1.50" Tool Spacing

**G28**
K1LS-2244-2869

**G01**
K1LS-2244-0169

**G27**
K1LS-2244-2766

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Shipping Information
22 mm System

1.72" Tool Spacing

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* TOOL HOLES FEATURE INTERNAL CLIP GROOVE FOR USE WITH ANY STYLE RETAINER

GW70
K9LW-2244-7062

SHIPPING INFORMATION

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25 mm System

1.72" Tool Spacing

HEAVY-DUTY BOARDS (1.72" (43.7 mm) TOOL SPACING)

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END PROTECTORS* (1.72" (43.7 mm) TOOL SPACING)

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* FOR 25 MM BOARDS ONLY

NEW

GH23
K1LW-2557-2362

GH13
K1LW-2557-1362

SHIPPING INFORMATION

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35 mm System

2.50” Tool Spacing

**SUPER-DUTY BOARDS** (2.50” (63.5 mm) TOOL SPACING)

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* FOR USE ON EXTRA-LARGE MOTOR GRADERS ONLY

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**GZ20**

Q7JZ-3574-2062

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Patent-Pending

Shipping Information
Accessories

Sandvik provides accessories to assist with tool and machine maintenance.

**CURVED KNOCK-OUT PUNCH**
Tool remover with carbide tip for extended life.

<table>
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**MAGNETIC PROTRACTOR**
Provides proper board alignment, so tools are at the correct angle to cut instead of scrape, minimizing wear on the carbide (*see next page*).

<table>
<thead>
<tr>
<th>PART NUMBER</th>
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<tbody>
<tr>
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</table>
**System 2000**

**Grading Tools Guidelines**

**INSTALLATION**
1. Remove old blades from your moldboard and clean off all dirt on bolting surface.

2. Install new System 2000 boards and tools.

3. Move to flat, level surface. Apply forward and downward pressure. Using a magnetic protractor, set the board at 90° from the level surface. Tilt the moldboard back until the protractor reads 70°. Measure both ends of the moldboard. If different, split the difference. Mark the tilt quadrant and circle frame for future reference.

4. If angle is not correct, chattering or vibration will occur. If this happens, adjust adapter back to 70°.

**GENERAL OPERATION**
1. Ensure all tools are rotating freely and System 2000 is at the correct operating angle. (see INSTALLATION)

2. Check rotation of tools periodically. A tool not rotating will leave a “drag mark” and should be freed as soon as possible. Failure to do this will cause premature wear of the carbide tip.

3. In oil road reclamation and asphalt planing, take up only 1/2 of the material on the first pass. This will break the crust and make it possible to plane the desired depth.

4. When mixing calcium chloride, the tools should be pressure washed to prevent the mix from setting up between the tool shank and the spring retainer. Punch tool out 3/4 of the way and rotate by hand to free the tool. Then knock the tool back in place.

5. For ice and snow removal, put the blade in “float” position with no down pressure. Recommended travel speed is third gear (low range). Higher speeds could cause premature tool wear.

6. The one-piece board design has the ability to back-drag material from unwanted surfaces, such as manhole covers, driveways and curbs.

7. The unique design requires that the board be positioned at a 70° angle. This allows material to roll up the blade, providing superior mixing characteristics.

**MAINTENANCE**
1. If tools are not rotating freely, pressure wash all sides of the tools. After washing, rotate the tools by hand. Those not rotating, punch out and clean the bore hole and sleeve, then punch back into adapter. Lubricate with any lightweight oil.

2. When center tools are worn down to 1/2 to 2/3 of their original size, rotate them with less worn outside tools.

3. Replace tool if carbide wears to a flat spot, breaks or wears off.

4. If the end of the adapter on the outside of the grader moldboard shows wear, rotate with center section adapter.

*Contact your Grading Tools representative for more detailed instructions for your applications.*
Partners in Action

Notes