

# **.4 hp Vacuum Disc Sander**

## **Right Angle, 2" Diameter, Rear Exhaust**

**SAFETY, OPERATION AND MAINTENANCE - SAVE THIS DOCUMENT, EDUCATE ALL PERSONNEL**

| <b>Model</b> | <b>RPM</b> | <b>Vacuum</b>  | <b>Port Size</b>     |
|--------------|------------|----------------|----------------------|
| <b>51225</b> | 12,000     | Self-Generated | 1" O.D.              |
| <b>51226</b> | 15,000     | Self-Generated | 1" O.D.              |
| <b>51227</b> | 20,000     | Self-Generated | 1" O.D.              |
| <b>51230</b> | 12,000     | Central Vacuum | 1-1/4" Threaded I.D. |
| <b>51231</b> | 15,000     | Central Vacuum | 1-1/4" Threaded I.D. |
| <b>51232</b> | 20,000     | Central Vacuum | 1-1/4" Threaded I.D. |



FIND THE MOST CURRENT OFFERING OF SUPPORT DOCUMENTS AND ACCESSORIES AT [WWW.DYNABRADE.COM](http://WWW.DYNABRADE.COM)

## **! WARNING**

Read and understand this tool manual before operating your air tool. Follow all safety rules for the protection of operating personnel as well as adjacent areas. Always operate, inspect and maintain this tool in accordance with the American National Standards Institute (ANSI) Safety Code for Portable Air Tools – B186.1. For additional safety information, refer to Safety Requirements for the Use, Care and Protection of Abrasive Wheels – ANSI B7.1, Code of Federal Regulation – CFR 29 Part 1910, European Committee for Standards (EN) Hand Held Non-Electric Power Tools – Safety Requirements and applicable State and Local Regulations.

|  |                                                                                                                                   |                                                                                                                                                           |  |
|--|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--|
|  | Read and understand tool manual before work starts to reduce risk of injury to operator, visitors, and tool.                      | Practice safety requirements. Work alert, have proper attire, and do not operate tools under the influence of alcohol or drugs.                           |  |
|  | Eye protection must be worn at all times, eye protection to conform to ANSI Z87.1.                                                | Ear protection to be worn when exposure to sound, exceeds the limits of applicable Federal, State or local statutes, ordinances and/or regulations.       |  |
|  | Respiratory protection to be used when exposed to contaminants that exceed the applicable threshold limit values required by law. | Air line hazard, pressurized supply lines and flexible hoses can cause serious injury. Do not use damaged, frayed or deteriorated air hoses and fittings. |  |

Some dust created by sanding, grinding, drilling, and other construction activities contain chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints
- Crystalline silica from bricks and cement and other masonry products
- Arsenic and chromium from chemically treated lumber

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

## **SAFETY INSTRUCTIONS**



**CAREFULLY READ AND UNDERSTAND PNEUMATIC TOOL SAFETY GUIDELINES (P/N 00001676) BEFORE HANDLING OR USING TOOL.**

Carefully Read all instructions before operating or servicing any Dynabrade® Abrasive Power Tool. Products offered by Dynabrade are not to be modified, converted or otherwise altered from the original design.

**Tool Intent:** Vacuum Disc Sanders are ideal for deburring, deflashing, surface preparation, cleaning and finishing using proper accessories.

**DO NOT USE tool for anything other than its intended applications.**

**Training:** Proper care, maintenance, and storage of your air tool will maximize tools performance and reduce chance for accident.

**Employer's Responsibility:** Provide operators with safety instructions and training for safe use of tools and accessories.

**REPORT TO YOUR SUPERVISOR ANY CONDITION OF THE TOOL, ACCESSORIES, OR OPERATION YOU CONSIDER UNSAFE.**

# OPERATING & MAINTENANCE INSTRUCTIONS

**Important:** To keep tool safe, a Preventative Maintenance Program is recommended. The program should include inspection of the tool and all related accessories and consumables, including air lines, pressure regulators, filters, oilers, etc. refer to ANSI B186.1 for additional maintenance information. If accessory or tool breakage occurs, investigate failure to determine the cause and correct before issuing tool for work. Use the following schedule as a starting point in developing a Preventative Maintenance Program. If tool does not operate properly (RPM, Vibration, Start/Stop) after these scheduled checks or at any time, the tool must be repaired and corrected before returning tool to use.

## INSTALLATION:

- To ensure long life and dependable service, use a Closed Loop Air System and Filter-Regulator-Lubricator as diagramed below.
- Each tool should have its own dedicated hose connected to an air supply manifold. Quick disconnects should be installed at the manifold in an effort to reduce contamination into the tool.
- It is strongly recommended that all Dynabrade rotary vane air tools be used with a Filter-Regulator-Lubricator to minimize the possibility of misuse due to unclean air, wet air or insufficient lubrication. Dynabrade recommends the following: **10681** Air Line Filter-Regulator-Lubricator — Provides accurate air pressure regulation, two-stage filtration of water contaminants and micro-mist lubrication of pneumatic components.
- Dynabrade recommends one drop of air lube per minute for each 20 SCFM (example: if the tool specification states 40 SCFM, set the drip rate on the filter-lubricator to 2 drops per minute) Dynabrade Air Lube (P/N **95842**: 1pt/473ml) is recommended.

## MAINTENANCE:

Daily (every 8 Hours):

- Inspect tool and accessories for damage or broken parts. Replace items as necessary to ensure proper operation and safety.
- Lubricate motor as recommended. Use Dynabrade Air Lube (P/N **95842**: 1pt/473ml) 10W/NR. (1 Drop per minute of air lube per 20 SCFM.)
- Check air line pressure with a gage. (MAX. 90 PSIG or 6.2 Bar operating pressure at the air inlet of the tool.)
- Check tool for proper operation: If operating improperly or demonstrates unusual vibration, the tool must be serviced and problem corrected before further use.

Every 20 hours or once a week whichever comes first:

- Check free speed of tool without the abrasive accessory mounted. Measure RPM (speed) with tachometer and with an air pressure gage connected at the air inlet of the tool. Maximum air pressure while the tool is running should read 90 PSIG (6.2 Bar). If a governed tool is operating at a higher speed than the RPM marked on the tool housing, the tool must be serviced and corrected before use. A non-governed tool may exceed the RPM marked on the tool by 10% when operated at free speed with no accessories.

## REPAIR:

- Use only genuine Dynabrade replacement parts to ensure quality. To order replacement parts, specify Model#, Serial# and RPM of your air tool.
- Mineral spirits are recommended when cleaning the tool and parts. Do not clean tool or parts with any solvents or oils containing acids, esters, ketones, chlorinated hydrocarbons or nitro carbons.
- DO NOT clean or maintain tools with chemicals that have a low flash point (example: WD-40®).
- A Motor Tune-Up Kit is available which includes high wear and medium wear motor parts.
- Air tool markings must be kept legible at all times, if not, reorder housing and replace. User is responsible for maintaining specification information.
- After maintenance is performed on tool, add a few drops of Dynabrade Air Lube (P/N **95842**) to the tool inlet and start the tool a few times to lubricate air motor. Verify RPM (per 20 hr maintenance schedule), vibration and operation.

## HANDLING & STORAGE:

- Use of tool rests, hangers and/or balancers is recommended.
- Protect tool inlet from debris (see Notice).
- DO NOT carry tool by air hose or near the tool throttle lever.
- Store accessories in protective racks or compartments to prevent damage.
- Follow the handling instructions outlined in the operating instructions when carrying the tool and when changing accessories.
- Protect accessories from exposure to water, solvents, high humidity, freezing temperature and extreme temperature changes.

## END OF USE/DISPOSAL:

When tool has reached its end of useful service, disassemble tool into its primary components (i.e. steel, aluminum and plastic part) and recycle or discard per local, state and/or federal regulations as to not harm the environment.

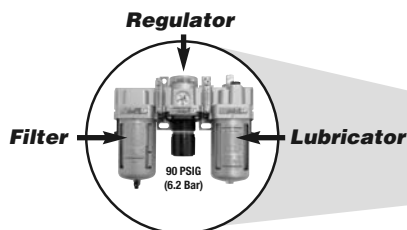
## NOTICE:

All Dynabrade motors use the highest quality parts and metals available and are machined to exacting tolerances. The failure of quality pneumatic motors can most often be traced to an unclean air supply or the lack of lubrication. Air pressure easily forces dirt or water contained in the air supply into motor bearings causing early failure. It often scores the cylinder walls and the rotor blades resulting in limited efficiency and power. Our warranty obligation is contingent upon proper use of our tools and cannot apply to equipment which has been subjected to misuse such as unclean air, wet air or a lack of lubrication during the use of this tool.

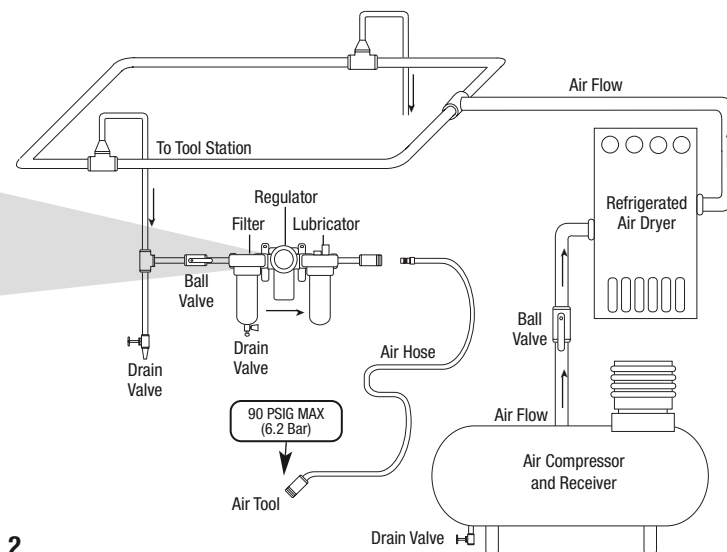
## AIR SYSTEM

*Closed loop pipe system, Sloped in direction of air flow*

| LUBRICATOR SETTING |  |
|--------------------|--|
| 1 DROP/MIN.        |  |
| 20 SCFM            |  |



- Dynabrade Air Power Tools are designed to operate at 90 PSIG (6.2 Bar) maximum air pressure at the tool inlet, when the tool is running. Use recommended regulator to control air pressure.
- Ideally the air supply should be free from moisture. To facilitate removing moisture from air supply, the installation of a refrigerated air dryer after the compressor and the use of drain valves at each tool station is recommended.



**MODELS:**

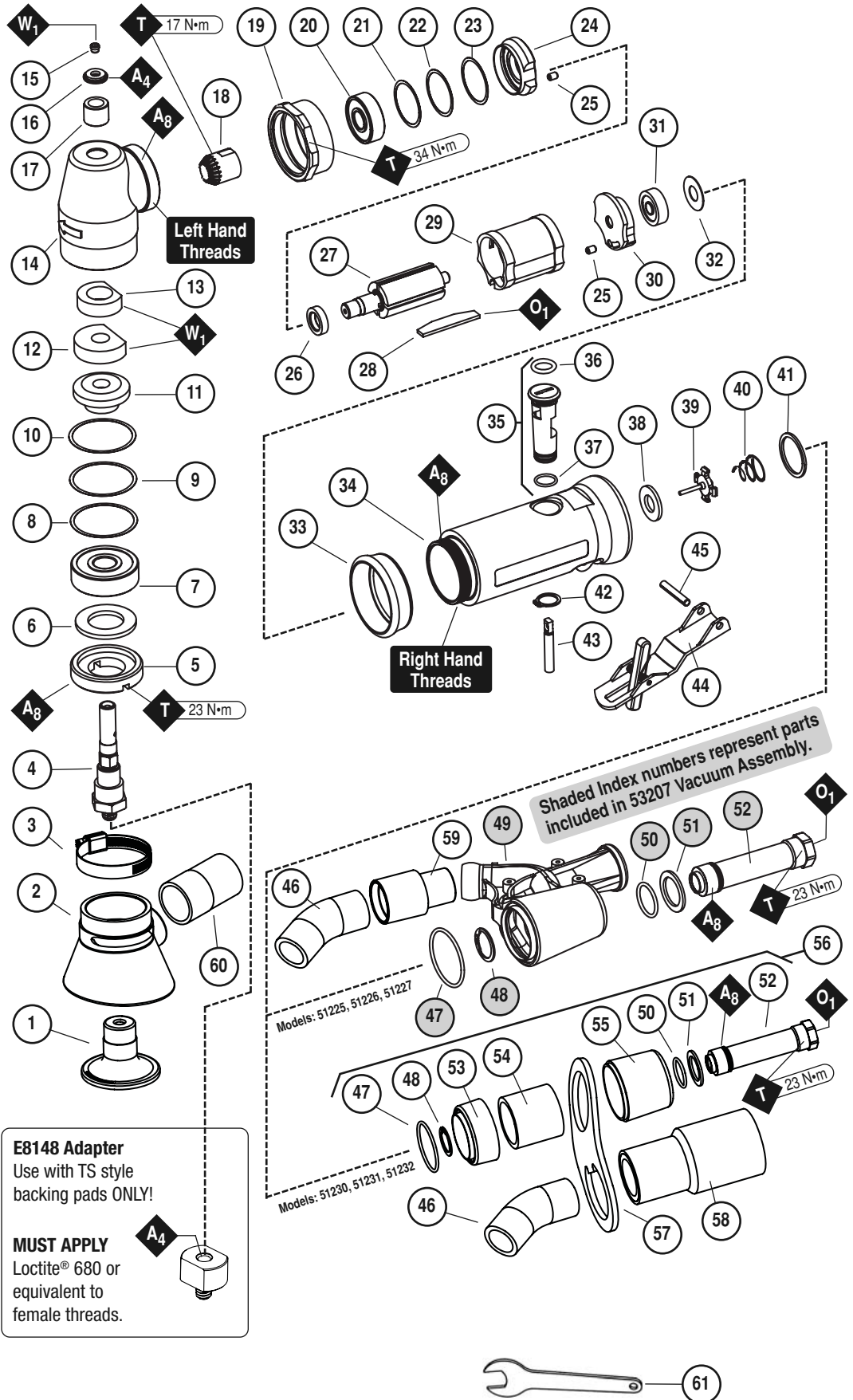
51225, 51226, 51227

51230, 51231, 51232

**3" Vacuum Disc Sander  
Complete Assembly****O** Oil: O<sub>1</sub> = Air Lube**KEY****A** Adhesive: A<sub>4</sub> = Loctite #680A<sub>8</sub> = Loctite #567**T** Torque: N•m x 8.85 = In. - lbs.**G** Wicking: W<sub>1</sub> = Gear OilAlways follow adhesive manufacturers  
cleaning and priming recommendations.**INDEX KEY**

No. Part # Description

|    |       |                                                  |
|----|-------|--------------------------------------------------|
| 1  | 51344 | Backing Pad                                      |
| 2  | 52742 | Shroud                                           |
| 3  | 97326 | Clamp                                            |
| 4  | 02029 | Spindle                                          |
| 5  | 02035 | Lock Nut                                         |
| 6  | 01486 | Felt Silencer                                    |
| 7  | 54520 | Bearing                                          |
| 8  | 97116 | Shim                                             |
| 9  | 97117 | Shim                                             |
| 10 | 97118 | Shim                                             |
| 11 | 02623 | Gear - 12,000RPM                                 |
| 12 | 02597 | Gear - 15,000RPM                                 |
| 13 | 02599 | Gear - 20,000RPM                                 |
| 14 | 02044 | Wick                                             |
| 15 | 02045 | Wick                                             |
| 16 | 02031 | Housing (Includes*)                              |
| 17 | 01041 | Gear Oil Fitting                                 |
| 18 | 02041 | Gear Oil Plate                                   |
| 19 | 02033 | Needle Bearing                                   |
| 20 | 02624 | Pinion - 12,000RPM                               |
| 21 | 02598 | Pinion - 15,000RPM                               |
| 22 | 02600 | Pinion - 20,000RPM                               |
| 23 | 01461 | Lock Nut                                         |
| 24 | 02649 | Bearing                                          |
| 25 | 54543 | Shim                                             |
| 26 | 54544 | Shim                                             |
| 27 | 54551 | Shim                                             |
| 28 | 01478 | Bearing Plate                                    |
| 29 | 50767 | Pin (2)                                          |
| 30 | 01479 | Spacer                                           |
| 31 | 02037 | Rotor                                            |
| 32 | 01480 | Blade (4/pkg.)                                   |
| 33 | 01476 | Cylinder                                         |
| 34 | 02676 | Bearing Plate                                    |
| 35 | 02696 | Bearing                                          |
| 36 | 02679 | Shield                                           |
| 37 | 01547 | Collar                                           |
| 38 | 02222 | Housing - Mdl: 51225                             |
| 39 | 02223 | Housing - Mdl: 51226                             |
| 40 | 02224 | Housing - Mdl: 51227                             |
| 41 | 02225 | Housing - Mdl: 51230                             |
| 42 | 02226 | Housing - Mdl: 51231                             |
| 43 | 02227 | Housing - Mdl: 51232                             |
| 44 | 01469 | Speed Regulator Assy.                            |
| 45 | 01024 | O-Ring                                           |
| 46 | 95730 | O-Ring                                           |
| 47 | 01464 | Seal                                             |
| 48 | 01472 | Tip Valve                                        |
| 49 | 01468 | Spring                                           |
| 50 | 01564 | Air Control Ring                                 |
| 51 | 95558 | Retaining Ring                                   |
| 52 | 01449 | Valve Stem                                       |
| 53 | 01462 | Safety-Lock Lever                                |
| 54 | 12132 | Pin                                              |
| 55 | 96584 | Vacuum Hose (3/4" Dia.)<br>Non-Conductive (Gray) |
| 56 | 31938 | Vacuum Hose (3/4" Dia.)<br>Conductive (Black)    |
| 57 | 95438 | O-Ring                                           |
| 58 | 95711 | Retaining Ring                                   |
| 59 | 94532 | Vacuum Adapter                                   |
| 60 | 95375 | O-Ring                                           |
| 61 | 94526 | Spacer                                           |
|    | 94523 | Inlet Adapter                                    |
|    | 94521 | Muffler Base                                     |
|    | 94528 | Silencer                                         |
|    | 94522 | Muffler Cap                                      |
|    | 94519 | Muffler Assembly                                 |
|    | 97161 | Vacuum Hose Retainer                             |
|    | 31907 | Vacuum Hose Cuff (1-1/4")<br>Conductive (Black)  |
|    | 95601 | Vacuum Hose Cuff (1")<br>Non-Conductive (Gray)   |
|    | 97180 | Vacuum Hose Cuff (1")<br>Conductive (Black)      |
|    | 95262 | 14 mm Wrench                                     |



## LIFETIME WARRANTY

To validate Dynabrade Lifetime Warrant, you must register each tool at: [www.dynabrade.com](http://www.dynabrade.com). Registration of each tool at website is required. Dynabrade will not honor Lifetime Warranty on unregistered tools. Please view the entire Lifetime Warranty Policy at : [www.dynabrade.com](http://www.dynabrade.com).

## MACHINE SPECIFICATIONS

Additional Specifications: Air Inlet Thread 1/4" NPT • Hose Size 3/8" (10 mm)  
Sound Level is the pressure measurement outlined in ISO regulation ISO-15744

| Model Number | RPM    | hp (Watt) | Sound dB(A) | Air Consumption   | Spindle      | Weight   | Length      | Height     |
|--------------|--------|-----------|-------------|-------------------|--------------|----------|-------------|------------|
| <b>51225</b> | 12,000 | .4 (298)  | 91          | 20 SCFM (566 LPM) | 1/4"-20 male | 1.4 (.6) | 9 (228)     | 3-1/2 (90) |
| <b>51226</b> | 15,000 | .4 (298)  | 92          | 20 SCFM (566 LPM) | 1/4"-20 male | 1.4 (.6) | 9 (228)     | 3-1/2 (90) |
| <b>51227</b> | 20,000 | .4 (298)  | 91          | 20 SCFM (566 LPM) | 1/4"-20 male | 1.4 (.6) | 9 (228)     | 3-1/2 (90) |
| <b>51230</b> | 12,000 | .4 (298)  | 85          | 20 SCFM (566 LPM) | 1/4"-20 male | 1.4 (.6) | 9-3/4 (249) | 3-1/2 (90) |
| <b>51231</b> | 15,000 | .4 (298)  | 82          | 20 SCFM (566 LPM) | 1/4"-20 male | 1.4 (.6) | 9-3/4 (249) | 3-1/2 (90) |
| <b>51232</b> | 20,000 | .4 (298)  | 85          | 20 SCFM (566 LPM) | 1/4"-20 male | 1.4 (.6) | 9-3/4 (249) | 3-1/2 (90) |

**Warning:** Ear protection to be worn when exposure to sound exceeds the limits of applicable Federal, State or local statutes, ordinances and/or regulations.

## OPTIONAL ACCESSORIES



### 96179 Motor Tune-Up Kit

- Includes assorted parts to help maintain and repair motor.

**02030** Drop-In Motor - 12,000RPM

**02050** Drop-In Motor - 15,000RPM

**02051** Drop-In Motor - 20,000RPM

- Allows quick and easy replacement. No motor adjustments needed.



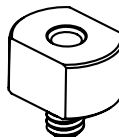
### Portable Vacuum Systems

- Dynabrade offers a wide assortment of vacuuming options to choose from. To help make your selection please request the most current portable vacuum systems literature from your local representative or by searching our web site.



### 52296 Repair Collar

- Specially designed collar for use in vise to prevent damage to valve body of tool during disassembly/assembly.



### E8148 Adapter

- Specially designed for TS Style back-up pads. Adapter provides proper spacing between the backing pad and shroud for effective vacuum capture.

## REFERENCE CONTACT INFORMATION

- American National Standards Institute – ANSI**  
25 West 43<sup>rd</sup> Street  
Fourth Floor  
New York, NY 10036  
Tel: 1 (212) 642-4900
- Government Printing Office – GPO**  
Superintendent of Documents  
Attn. New Orders  
P.O. Box 371954  
Pittsburgh, PA 15250-7954  
Tel: 1 (202) 512-1803
- Power Tool Institute, Inc.**  
P.O. Box 818  
Yachata, Oregon 97498-0818  
Tel: 1 (503) 547-3185
- European Committee for Standardization**  
Rue de Stassart 36  
B - 1050 Brussels, Belgium

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