SECTION B

American Brush Manufacturers Association Summary of Revisions - Proposed ANSI B165.1 R2025

Clause	Comment	Rationale	Revision Language
2 – Normative References	Updated reference	ANSI B7.1-2011 has been superseded by the 2017 edition, ANSI/UAMA B7.1-2017.	ANSI/UAMA B7.1-~~2011~~2017, Safety requirements for the use, care, and protection of abrasive wheels
2 – Normative References	Updated reference	ANSI/ISEA Z87.1-2010 has been superseded by the 2020 edition, ANSI/ISEA Z87.1-2020	ANSI/ISEA Z87.1-~~2010~~2020, Practice for occupational and educational eye and face protection
2 – Normative References – E2 – Bibliography (informative)	Updated reference	ANSI/NFPA 91-2010 has been superseded by the 2020 edition, NFPA 91-2020	ANSI/NFPA 91-~~2010~~, 2020, Exhaust systems for air conveying of vapors, gases, mists, and noncombustible particulate solids
2 – Normative References – E2 – Bibliography (informative)	Updated reference	ANSI/UL 154 CAN/ULC-5503-2009 – update not located within ANSI –reference to newest ANSI standard	~~ANSI/UL 154 CAN/ULC-5503-2009~~, ANSI/NFPA 12-2018, Safety standard for carbon-dioxide ~~fire extinguishers~~ extinguishing systems

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E3.1.11	Clarifying comment	Clarification of the definition/description of “twisted tuft or knot” Note: \\\\ 3.1.15 reads: 3.1.15 twisted tuft or knot: A group of straight wires of equal length that are passed through or around a retaining member, bent into a U-shape, then twisted together to form a single tuft. The helix angle, or angle of twist of a tuft is the angle through which a radial section of a group of wires deflects from its normal position when the wires are subjected to a predetermined twisting torque. The helix angle is a variable, contingent upon the type of wire, the diameter, and the size of the tuft.	E3.1.11 Brush flexibility The quality of a brush that determines resiliency or stiffness is measured in terms of resistance to the bending of filaments. This physical characteristic of flexibility, sometimes referred to as “modulus of elasticity (stiffness),” can be varied in a number of ways. Primary ways are as follows: - Change modulus of elasticity of the fill materials, which varies for different materials. For example: steel, brass, hair, nylon. - Increase or decrease the diameter of fill material. For example: 0.020 inch (0.508 mm) steel wire is stiffer than 0.005 inch (0.127 mm) steel wire of same analysis. - Increase or decrease the trim length of the fill material. For example: A steel wire filament that is 0.010 inch (0.254 mm) in diameter and 1 inch (25.4 mm) long is stiffer than a similar steel wire filament that is 0.010 inch (0.254 mm) in diameter and 4 inches (101.6 mm) long. - Increase or decrease the speed of rotation. For example: The faster a brush is rotated, the stiffer it becomes because of the influence of centrifugal force. - Change the construction of the brush. For example: Filaments of wire twisted together as in a knotted or twisted tuft brush (see 3.1.15) are stiffer than those in a crimped wire brush. In the knot or twisted tuft construction, the filaments being twisted together act as a family of filaments, while in a crimped wire brush, they act more independently of other filaments. - Increase or decrease the number of brushing points per square unit of brush face. This changes the brush flexibility through wire packing, load division, or both; accordingly, flexibility increases as density decreases and, conversely, less capability to conform to the surface being brushed will result as density increases. - Encapsulating, coating, or treating the brushes makes them less flexible than the brushes without encapsulation, coating, or treatment.

E3.1.17	Clarifying comment	References diagrams/tables provided further into document	E3.1.17 Arbor adapter Adapter should be designed so that, when tightened, the adapter shoulder is bearing against the brush. Brushes using adapters without a shoulder are tightened to bear against the brush. When used in pairs, adapters should be of the same or proper shape to avoid cross-bending pressures and distortion of the brush; and should be of sufficient rigidity to resist distortion from mounting pressure. Adapters can be distorted by excessive tightening, or burred by dropping; therefore, they should be checked periodically. In some brush operations in which wheel slippage may be a problem, it may be necessary to key or otherwise securely fasten the adapters to the spindle. Selecting appropriate arbor adapter please see section 5.5 Table 1 and Table 1a.

E4.3	Update	Include alternate marking technology Update website URL for security	E4.3 Marking The required type of marking will leave permanent, as well as legible, admonishments and identification on the brush. The markings can be etched, molded in, ~~or~~ die stamped, or laser marked. Marking or labeling the packages of smaller items (under 1 inch or 2.54 cm) is desirable and would meet the requirements of this standard. The American Brush Manufacturers Association (ABMA) must maintain a list of manufacturers and their marks. Each manufacturer will submit a current sample of their mark or their marks to ABMA and advise them of any future changes. All packages containing brushes should have a summary of the safety precautions given in this standard printed either on each package or on a card or slip placed inside the package. When the card or slip is placed inside the package, the package (or label on the package) must be marked Warning: Read and understand all warnings and operating instructions on the enclosed safety slip and those provided with your power tool before using this brush. All brushes delivered to end users must be accompanied with a copy of the summary of safety precautions as available from the ABMA or packaged with the product. See Illustration 2 for the recommended text for this summary. If a copy of the summary of safety precautions is unavailable, please contact ABMA, info@abma.org, or visit the website, https://www.abma.org, to receive a copy.

E5.3	Clarifying comment	Clarification of process	E5.3 Power Deterioration of operating conditions caused by insufficient power causes many problems. For example, reduction in brush speed, even while holding normal brush pressures, will cause a substantial decrease in cutting rate and efficiency. If pressure is increased to compensate for low brush speed, excessive heat and wear will be encountered, resulting in decreased cutting rate and efficiency. Reduced speed means reduced centrifugal force and a consequent reduction in the stiffness of the brush fill material. This loss of stiffness permits normal brush pressures to over flex the filament and induce premature fatigue. Over-stressed filaments that undergo fatigue will break off, creating a hazard. Adequate power will avoid this hazard.
Table 4, Type IV.	Grammatical error	Provide missing letter	Type IV. End brush Class 1. Crimped Style A. Solid fill Style B. Hollow ~~enter~~ center Style C. Pilot end Class 2. Twisted tuft or knot Hollow center