

## STANDARD INFORMATION

**Standard:** CSA C22.2 No. 60974-1

**Standard ID:** Arc Welding Equipment - Part 1: Welding Power Sources [CSA C22.2#60974-1:2019 Ed.1]

**Previous Standard ID:** Arc Welding Equipment - Part 1: Welding Power Sources [CSA E60974-1:2012 Ed.3]

## EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

**Effective Date:** **January 1, 2023**

## IMPACT, OVERVIEW, AND ACTION REQUIRED

**Impact Statement:** Per our accreditation, Intertek is required to review reports against the standard revisions to confirm compliance. Once compliance is confirmed, the standard reference in the report is updated to show continued compliance to the technical requirements of the standard.

CSA E60974-1 has been renumbered to CSA C22.2 No. 60974-1 in this new edition.

### Overview of Changes:

- Addition of requirements for test conditions
- Modifications of the content for Instructions
- Modifications of the content for Markings
- New Annex for Battery-powered welding power sources

Specific details of new/revise requirements are found in table below.

***Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.***



## STANDARD INFORMATION

CLAUSE	VERDICT	COMMENT
		<i>Additions to existing requirements are <u>underlined</u> and deletions are shown <del>lined-out</del> below.</i>
5	Info	<b>Tests</b>
5.1	Info	<b>Test conditions</b>
		<b><i>New clause added;</i></b>
5.1DV D1		The tests shall be carried out on new, dry, and completely assembled welding power sources at an ambient air temperature between 10 °C and 40 °C. When placing the measuring devices, the only access permitted shall be through openings with cover plates, inspection doors, or easily removable panels provided by the manufacturer. The ventilation in the test area and the measuring devices used shall not interfere with the normal ventilation of the welding power source or cause abnormal transfer of heat to or from it.
17	Info	<b>Instructions and markings</b>
17.1	Info	<b>Instructions</b>
17.1DV.4		Each welding power source shall be delivered with instructions which shall include the following (as applicable):  <u>tDV) a statement that the field-installed attachment plug shall only be installed by qualified personnel in accordance with relevant local and national electrical codes.</u>
17.2	Info	<b>Markings</b>
		<b><i>New clause added;</i></b>
		<b>Legibility, durability, and permanence requirements</b>
17.2DV.1		Markings shall be legible, contrast with the background, and be visible to the operator when controls on the product are operated in preparation for an arc-welding operation. Markings shall be permanent and shall be located on a permanent part of the product or on a part that cannot be removed without impairing the operation of the product.  Conformity shall be checked by meeting the legibility, durability, and permanence requirements in Table DVA.3, Ref. No. 5.



CLAUSE	VERDICT	COMMENT
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*New clause added;*

**Read instruction manual requirements**

Each welding power source shall be clearly and indelibly marked on or near the front panel or near the ON/OFF switching device with the following combination of symbols to signify “Caution! Read instruction manual”:



17.2DV.2

This marking shall also be used near the torch connector of plasma cutting power sources to indicate that the operator should read the instruction manual before selecting and connecting a torch.

A single marking readily visible within the operator’s line of sight to the front panel, ON/OFF switching device, and torch connector may be used.

The following equivalent wording may be used:

Warning: Read instruction manuals before operating and servicing this equipment.

*New clause added;*

**Requirements for precautionary markings**

A product shall be marked with the word “WARNING”, and precautionary markings shall communicate the following information:

To reduce the risks to yourself and others, read and understand this marking.

FUMES AND GASES can injure your health.

ARC RAYS can injure eyes and burn.

17.2DV.3

ELECTRIC SHOCK can KILL.

Read and understand the manufacturer’s instructions and your employer’s safety practices.

Keep your head out of the fumes.

Use enough ventilation, exhaust at the arc, or both, to keep fumes and gases from your breathing zone and the general area.

Wear correct eye, ear, and body protection.

Do not touch live electrical parts.



**CLAUSE VERDICT COMMENT**

Consult instruction manual before operating.

DO NOT REMOVE THIS MARKING

NOTE The methodology for the design, application, use, and validation of safety labels is found in ANSI Z535.

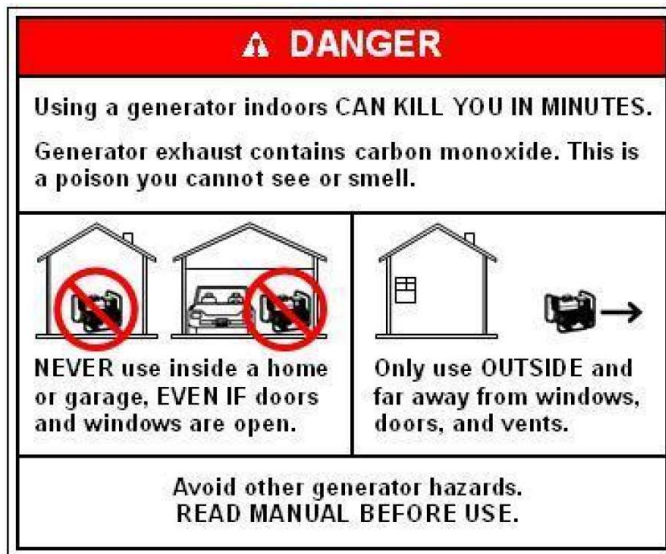
Conformity shall be checked by visual inspection.

***New clause added;***

**Requirements specific to engine-driven power sources**

The precautionary marking shown in Figure 7DV addressing the carbon monoxide component of engine exhaust shall appear on the product and product packaging. Figure 7DV DR Add the following figure:

17.2DV.4



For engine-driven power sources with general-purpose a.c. output receptacles, the status of the neutral conductor shall be marked as follows:

NEUTRAL FLOATING or NEUTRAL BONDED TO FRAME (as applicable)

Engine-driven power sources with general-purpose d.c. output receptacles shall be marked with the following:

SYSTEM FLOATING or SYSTEM BONDED TO FRAME (as applicable)

Conformity shall be checked by visual inspection.

17.2DV.5 Requirements for equipment intended for outdoor use

Equipment with IP 23 rating or better shall also be marked Weather Proof or WP.



CLAUSE	VERDICT	COMMENT
		<i>New clause added;</i>
17.2DV.5		<b>Requirements for equipment intended for outdoor use</b>  Equipment with IP 23 rating or better shall also be marked Weather Proof or WP.
		<i>New annex added;</i>
Annex O		<b>Battery-powered welding power sources</b>  Annex O applies to rechargeable battery-powered welding power sources for arc welding and allied processes and the battery packs for such equipment. See standard for requirements.