



## LITHIUM-ION BATTERY PACKS BLOC DE PILES AU LITHIUM-ION PAQUETE DE BATERIA DE IONES DE LITIO

**New batteries must be charged before first use.  
Les batteries neuves doivent être chargées avant leur utilisation initiale.  
Las baterías nuevas se deben cargar antes de usarlas por primera vez.**

# IMPORTANT SAFETY INSTRUCTIONS

**WARNING READ AND UNDERSTAND ALL INSTRUCTIONS.** Failure to follow all instructions listed below, may result in electric shock, fire and/or serious personal injury.

## SAVE THESE INSTRUCTIONS.

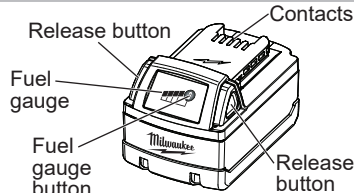
- SAVE THESE INSTRUCTIONS - THIS OPERATOR'S MANUAL CONTAINS IMPORTANT SAFETY AND OPERATING INSTRUCTIONS FOR MILWAUKEE LI-ION BATTERY PACKS AND THE MILWAUKEE LI-ION CHARGER.**
- BEFORE USING THE BATTERY PACK AND CHARGER, READ THIS OPERATOR'S MANUAL, YOUR TOOL OPERATOR'S MANUAL, AND ALL LABELS ON THE BATTERY PACK, CHARGER AND TOOL.**
- CAUTION - TO REDUCE THE RISK OF INJURY, CHARGE MILWAUKEE LITHIUM-ION PACKS ONLY IN THEIR MILWAUKEE LITHIUM-ION CHARGER.** Other types of chargers may cause personal injury or damage. Battery pack and charger are not compatible with V™-technology or NiCd systems. Do not wire a battery pack to a power supply plug or car cigarette lighter. Battery packs will be permanently disabled or damaged.
- USE MILWAUKEE LITHIUM-ION PACKS ONLY ON COMPATIBLE MILWAUKEE LITHIUM-ION TOOLS.** Battery pack and charger are not compatible with V™-technology or NiCd systems. Use with other tools may result in a risk of fire, electric shock or personal injury.
- AVOID DANGEROUS ENVIRONMENTS.** Do not charge battery pack in rain, snow, damp or wet locations. Do not use battery pack or charger in the presence of explosive atmospheres (gaseous fumes, dust or flammable materials) because sparks may be generated when inserting or removing battery pack, possibly causing fire.
- CHARGE IN A WELL VENTILATED AREA.** Do not block charger vents. Keep them clear to allow proper ventilation. Do not allow smoking or open flames near a charging battery pack. Vented gases may explode.
- DO NOT BURN OR INCINERATE BATTERY PACKS.** Battery packs may explode, causing personal injury or damage. Toxic fumes and materials are created when battery packs are burned.
- DO NOT CRUSH, DROP, OR DAMAGE** battery pack. Do not use a battery pack or charger that has received a sharp blow, been dropped, run over, or damaged in any way (e.g., pierced with a nail, hit with a hammer, stepped on).
- DO NOT DISASSEMBLE.** Incorrect reassembly may result in the risk of electric shock, fire or exposure to battery chemicals. If it is damaged, take it to a MILWAUKEE service facility.
- BATTERY CHEMICALS CAUSE SERIOUS BURNS.** Never allow contact with skin, eyes, or mouth. If a damaged battery pack leaks battery chemicals, use rubber or neoprene gloves to dispose of it. If skin is exposed to battery fluids, wash with soap and water and rinse with vinegar. If eyes are exposed to battery chemicals, immediately flush with water for 20 minutes and seek medical attention. Remove and dispose of contaminated clothing.
- DO NOT SHORT CIRCUIT.** A battery pack will short circuit if a metal object makes a connection between the positive and negative contacts on the battery pack. Do not place a battery pack near anything that may cause a short circuit, such as coins, keys or nails in your pocket. Do not allow fluids to flow into battery pack. Corrosive or conductive fluids, such as seawater, certain industrial chemicals, and bleach or bleach containing products, etc., can cause a short circuit. A short circuited battery pack may cause fire, personal injury, and product damage.
- STORE YOUR BATTERY PACK AND CHARGER** in a cool, dry place. Do not store battery pack where temperatures may exceed 120°F (50°C) such as in direct sunlight, a vehicle or metal building during the summer.
- ALWAYS USE A SIDE HANDLE** when using a 9.0 Ah or higher capacity battery pack; the output torque of some tools may increase. If your drill/driver did not come with a side handle, visit [www.milwaukeeool.com](http://www.milwaukeeool.com) for the appropriate accessory handle.

## READ AND SAVE ALL INSTRUCTIONS FOR FUTURE REFERENCE.

### SYMBOLOLOGY

- Volts
- Direct Current
- Do not allow battery to contact corrosive or conductive fluid
- Properly Recycle Batteries

### FUNCTIONAL DESCRIPTION



### Charging Temperature

Recommended Ambient Charging Temperature 40°F to 105°F

### Fuel Gauge

Use the Fuel Gauge to determine the battery pack's remaining run time. Press the Fuel Gauge button to display the lights. The Fuel Gauge will light up for 2-3 seconds. When less than 10% of charge is left, 1 light on the fuel gauge will flash slowly.

**NOTE:** If the Fuel Gauge doesn't appear to be working, place the battery pack on the charger and charge as needed. Compared to NiCd battery pack types, MILWAUKEE Lithium-Ion battery packs deliver fade-free power for their entire run time. The tool will not experience a slow, gradual loss of power as you work. To signal the end of discharge, 1 light on the fuel gauge will flash quickly for 2-3 seconds and the tool will not run. Charge the battery pack.

**NOTE:** Immediately after using the battery pack, the Fuel Gauge may display a lower charge than it will if checked a few minutes later. The battery cells "recover" some of their charge after resting.

### Battery Pack Protection

To protect itself from damage and extend its life, the battery pack's intelligent circuit monitors current draw and temperature. In extremely high torque, binding, stalling, and short circuit situations, the battery pack will turn OFF the tool if the current draw becomes too high. All the fuel gauge lights will flash. Release the trigger and restart.

Under extreme circumstances, the internal temperature of the battery could become too high. If this happens, the fuel gauge lights will flash in an alternating pattern and the tool will not run. Allow the battery to cool down.

### Cold Weather Operation

MILWAUKEE Lithium-Ion battery packs are designed to operate in temperatures below freezing. When the battery pack is too cold, it may need to warm up before normal use. Put the battery on a tool and use the tool in a light application. It may "buzz" for a short time until it warms up. When the buzzing stops, use the tool normally.

**WARNING TO REDUCE THE RISK OF FIRE, PERSONAL INJURY, AND PRODUCT DAMAGE DUE TO A SHORT CIRCUIT, NEVER IMMERSIVE YOUR TOOL, BATTERY PACK OR CHARGER IN FLUID OR ALLOW A FLUID TO FLOW INSIDE THEM. CORROSIVE OR CONDUCTIVE FLUIDS, SUCH AS SEAWATER, CERTAIN INDUSTRIAL CHEMICALS, AND BLEACH OR BLEACH CONTAINING PRODUCTS, ETC., CAN CAUSE A SHORT CIRCUIT.**

### Maintenance and Storage

Do not expose your battery pack or cordless tools to water or rain, or allow them to get wet. This could damage the tool and battery pack. Do not use oil or solvents to clean or lubricate your battery pack. The plastic casing will become brittle and crack, causing a risk of injury.

Store battery packs at room temperature away from moisture. Do not store in damp locations where corrosion of terminals may occur. As with other battery pack types, permanent capacity loss can result if the pack is stored for long periods of time at high temperatures (over 120° F). MILWAUKEE Lithium-Ion battery packs maintain their charge during storage longer than other battery pack types. After about a year of storage, charge the pack as normal.

### Transport

Personal transport of Li-Ion battery packs is allowed when done in accordance with these warnings and instructions. The proper classification, packaging, labeling, marking, and documentation requirements for shipping Li-Ion batteries is dependent upon whether the particular batteries are rated greater than or less than 100 Wh. Generally, Li-Ion batteries rated 100 Wh or less are "excepted" from certain Class 9 DG requirements. Always check compliance of Li-Ion battery consignments against the current regulations governing the chosen mode of transport. When in doubt, contact the carrier or other trained Dangerous Goods professional to confirm acceptability. Li-Ion packs are shipped under classification UN 3480 (battery only) or UN 3481 (batteries contained in or packed with equipment).

### Disposing of MILWAUKEE Li-Ion Battery Packs

MILWAUKEE Lithium-Ion battery packs are more environmentally friendly than some other types of power tool battery packs (e.g., nickel-cadmium). Always dispose of your battery pack according to federal, state and local regulations. Contact a recycling agency in your area for recycling locations. Even discharged battery packs contain some energy. Before disposing, use electrical tape to cover the terminals to prevent the battery pack from shorting, which could cause a fire or explosion.

**WARNING TO REDUCE THE RISK OF INJURY OR EXPLOSION, NEVER BURN OR INCINERATE A BATTERY PACK EVEN IF IT IS DAMAGED, DEAD OR COMPLETELY DISCHARGED. WHEN BURNED, TOXIC FUMES AND MATERIALS ARE CREATED.**

### RBRC Battery Recycling Seals

The RBRC™ Battery Recycling Seals (see "Symbology") on your tool battery packs indicate that MILWAUKEE has arranged for the recycling of that battery pack with the Rechargeable Battery Recycling Corporation (RBRC). At the end of your battery pack's useful life, return the battery pack to a MILWAUKEE Branch Office/Service Center or the participating retailer nearest you. For more information, visit the RBRC web site at [www.rbrc.org](http://www.rbrc.org).

### Limited Warranty

Every MILWAUKEE Battery Pack (sold with cordless product and/or as a replacement battery pack) is warranted to the original purchaser only to be free from defects in material and workmanship. Subject to certain exceptions, MILWAUKEE will repair or replace a battery pack which, after examination, is determined by MILWAUKEE to be defective in material or workmanship for the stated warranty period from date of purchase. Return of the battery pack to a MILWAUKEE factory Service Center location or MILWAUKEE Authorized Service Station, freight prepaid and insured, is required. For the proper shipping procedure of battery packs, contact 1.800.SAWDUST (1.800.729.3878), or go to [www.milwaukeeool.com](http://www.milwaukeeool.com). A copy of the proof of purchase should be included with the return product. This warranty does not apply to damage that MILWAUKEE determines to be from repairs made or attempted by anyone other than MILWAUKEE authorized personnel, misuse, alterations, abuse, normal wear and tear, lack of maintenance, or accidents.

Battery Pack Cat. No.	Chemistry	Warranty Period (from date of purchase)
48-11-1812, 48-11-1828 (Serial number prefix "B41E" and later), 48-11-1840, 48-11-1850, 48-11-1860, 48-11-1865, 48-11-1890, 48-11-2402, 48-11-2440, 48-11-2460, 48-11-2830 (Serial number prefix "C71")	LITHIUM-ION	Three (3) Years
48-11-0490, 48-11-1815, 48-11-1820, 48-11-2001, 48-11-2401, 48-11-2420, 48-11-2430	LITHIUM-ION	Two (2) Years
48-11-1828 (Serial number prefix "B41D" and earlier), 48-11-1830 (Serial number prefix "A95"), 48-11-2830 (Serial number prefix "A71")	LITHIUM-ION	Two (2) Years – plus, Three (3) Years Pro-Rata (prorated)*
48-11-0100, 48-11-1024, 48-11-1830 (Serial number prefix "E95"), 48-11-1970, 48-11-2230	Nickel-Cadmium (Ni-Cd), Nickel-Metal-Hydride (Ni-MH), LITHIUM-ION	One (1) Year

\*The warranty period for MILWAUKEE M18™ 48-11-1828 (with the serial number prefix "B41D" and earlier), V18™ 48-11-1830 (with the serial number prefix "A95"), and V28™ 48-11-2830 (with the serial number prefix "A71") is five (5) years / 2000 charges from the date of purchase, whichever first occurs. The first 1000 charges or 2 years of the warranty, whichever first occurs, are covered through free replacement of the defective battery. This means that for the earlier of the first 1000 charges or two (2) years from the date of purchase/first charge, a replacement battery will be provided to the customer for any defective battery free of charge. Thereafter, the remaining charges up to a total of 2000 or the remainder of the five (5) year period from the date of purchase, whichever first occurs, will be covered on a pro rata basis. This means that every customer gets an additional 1000 charges or three (3) years of pro rata warranty on the these battery packs, depending upon the amount of use. MILWAUKEE M18™ 48-11-1828 (with the serial number prefix "B41E" and later), V18™ 48-11-1830 (with the serial number prefix "E95"), and M28™ 48-11-2830 (with the serial number prefix "C71") have different warranty periods, as listed.

Warranty Registration is not necessary to obtain the applicable warranty on a MILWAUKEE battery pack. The manufacturing date of the product will be used to determine the warranty period if no proof of purchase is provided at the time warranty service is requested.

ACCEPTANCE OF THE EXCLUSIVE REPAIR AND REPLACEMENT REMEDIES DESCRIBED HEREIN IS A CONDITION OF THE CONTRACT FOR THE PURCHASE OF EVERY MILWAUKEE PRODUCT. IF YOU DO NOT AGREE TO THIS CONDITION, YOU SHOULD NOT PURCHASE THE PRODUCT. IN NO EVENT SHALL MILWAUKEE BE LIABLE FOR ANY INCIDENTAL, SPECIAL, CONSEQUENTIAL OR PUNITIVE DAMAGES, OR FOR ANY COSTS, ATTORNEY FEES, EXPENSES, LOSSES OR DELAYS ALLEGED TO BE AS A CONSEQUENCE OF ANY DAMAGE TO, FAILURE OF, OR DEFECT IN ANY PRODUCT INCLUDING, BUT NOT LIMITED TO, ANY CLAIMS FOR LOSS OF PROFITS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS WARRANTIES, WRITTEN OR ORAL. TO THE EXTENT PERMITTED BY LAW, MILWAUKEE DISCLAIMS ANY IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE; TO THE EXTENT SUCH DISCLAIMER IS NOT PERMITTED BY LAW, SUCH IMPLIED WARRANTIES ARE LIMITED TO THE DURATION OF THE APPLICABLE EXPRESS WARRANTY AS DESCRIBED ABOVE. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU, THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

This warranty applies to product sold in the U.S.A. and Canada only. Please consult the "Service Center Search" in the Parts & Service section of MILWAUKEE's website [www.milwaukeeool.com](http://www.milwaukeeool.com) or call 1.800.SAWDUST (1.800.729.3878) to locate your nearest service facility for warranty and non-warranty service on a MILWAUKEE Battery Pack.

## RÈGLES GÉNÉRALES DE SÉCURITÉ

**AVERTISSEMENT LIRE ET COMPRENDRE TOUTES LES INSTRUCTIONS.** Le non-respect des instructions ci-après peut entraîner des chocs électriques, des incendies et/ou des blessures graves.

## CONSERVER CES STRUCTIONS.

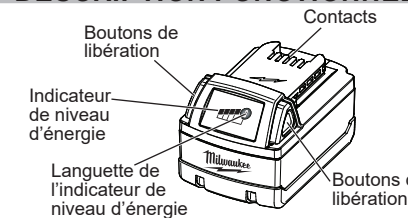
- CONSERVER CES INSTRUCTIONS - CE MANUEL DE L'OPÉRATEUR CONTIENT DES INSTRUCTIONS IMPORTANTES EN MATIÈRE DE SÉCURITÉ ET DE FONCTIONNEMENT POUR LE BLOC DE PILES AU LITHIUM-ION 18V MILWAUKEE.**
- AVANT D'UTILISER LE BLOC DE PILES ET LE CHARGEUR, LIRE CE MANUEL DE L'OPÉRATEUR, LE MANUEL DE L'OPÉRATEUR DE L'OUTIL ET TOUTES LES ÉTIQUETTES DU BLOC DE PILES, DU CHARGEUR ET DE L'OUTIL.**
- MISE EN GARDE! POUR MINIMISER LES RISQUES DE BLESSURES CORPORELLES, SEULE LE BLOC DE PILES AU LI-ION MILWAUKEE DOIT ÊTRE RECHARGÉ AVEC CHARGEUR AU LI-ION.** D'autres types de chargeurs peuvent causer des blessures ou des dommages. Le bloc de piles et le chargeur ne sont pas compatibles avec les systèmes NiCd ou de technologie V™. Ne pas relier un bloc de piles à une prise d'alimentation électrique ou à un allume-cigare de voiture pour ne pas désactiver ou endommager de façon permanente le bloc de piles.
- UTILISER UNIQUEMENT LES BLOCS AU LITHIUM-ION DE MILWAUKEE SUR DES OUTILS COMPATIBLES AU LITHIUM-ION DE MILWAUKEE.** Le bloc de piles et le chargeur ne sont pas compatibles avec les systèmes NiCd ou de technologie V™. Une utilisation avec d'autres outils peut causer des risques d'incendie, de chocs électriques et de blessures.
- ÉVITEZ LES ENVIRONNEMENTS À RISQUES. N'UTILISEZ PAS LE CHARGEUR SOUS LA PLUIE,** la neige ou dans les endroits humides ou mouillés. Ne vous servez pas du chargeur ou du bloc de piles en milieu explosifs (émanations de gaz, poussière ou substances inflammables), car il pourrait se produire des étincelles, lors de l'insertion du bloc de piles dans le chargeur ou lors de son retrait, créant un risque d'incendie.
- RECHARGEZ DANS UN ENDROIT BIEN VENTILÉ.** Ne laissez pas les événements du chargeur se bloquer et assurez-vous qu'ils sont bien ventilés. N'effectuez pas une recharge du bloc de piles à proximité d'une flamme vive ou fumante, afin d'éviter l'explosion des décharges de gaz.
- NE PAS BRÛLER OU INCINÉRER LE BLOC DE PILES.** Le bloc de piles peuvent exploser et causer des blessures ou des dommages. Des gaz et des matériaux toxiques sont créés lorsque le bloc de piles au lithium-ion sont brûlés.
- NE PAS ÉCRASER, LAISSER TOMBER OU ENDOMMAGER** le bloc de piles. Ne pas utiliser un bloc de piles ou un chargeur qui ont reçu choc important, qui sont tombés, ont été écrasés ou endommagés de quelle que façon que ce soit (par exemple percés par une pointe, heurtés par un marteau, piétinés).
- NE PAS DÉMONTÉ.** Un remontage incorrect peut causer des risques de chocs électriques, d'incendies ou d'exposition des produits chimiques du bloc de piles. Si elle est endommagée, l'apporter à un centre d'entretien MILWAUKEE.
- LE LIQUIDE DU BLOC DE PILES PEUT CAUSER DES BRÛLURES CHIMIQUES GRAVES.** Ne permettez jamais que le liquide du bloc de piles ne vienne en contact avec la peau ou les yeux. Si du liquide s'écoule d'un bloc de piles, mettez des gants de caoutchouc ou de néoprène pour disposer du liquide. Si la peau vient en contact avec le liquide, lavez-la à l'eau savonneuse et rincez-la ensuite au vinaigre. Enlevez les vêtements souillés et disposez-en. Si les yeux sont affectés, arrosez-les immédiatement avec de l'eau en abondance pendant 20 minutes et demandez l'aide d'un médecin.
- ATTENTION AUX COURTS-CIRCUITS!** Un bloc-piles court-circuité si un objet métallique établit une connexion entre les contacts positifs et négatifs sur le bloc-piles. Ne placez pas un bloc-piles près de tout ce qui peut causer un court-circuit, comme des pièces de monnaie, des clés ou des clous dans votre poche. Ne pas laisser les fluides s'écouler dans le bloc-piles. Les fluides corrosifs ou conducteurs, tels que l'eau de mer, certains produits chimiques industriels, les produits de blanchiment ou de blanchiment, etc., peuvent provoquer un court-circuit. Un bloc-batterie court-circuité peut provoquer des incendies, des blessures corporelles et des dommages au produit.
- RANGÉ LE BLOC DE PILES ET LE CHARGEUR** dans un endroit sec et frais. Ne rangez pas le bloc de piles dans un endroit où la température pourrait dépasser 50°C (120°F), comme par exemple un véhicule ou une structure métallique en été.
- UTILISEZ TOUJOURS UNE POIGNÉE LATÉRALE** avec un bloc-piles de capacité égale ou supérieure à 9,0 Ah; le couple de sortie de certains outils peut augmenter. Si votre perceuse/tournevis ne dispose pas d'une poignée latérale, visitez [www.milwaukeeool.com](http://www.milwaukeeool.com) pour une poignée accessoire appropriée.

## LIRE ET CONSERVER TOUTES LES INSTRUCTIONS POUR RÉFÉRENCE FUTURE.

### PICTOGRAPHIE

- Volts
- Courant direct
- Ne pas permettre que le bloc-piles soit en contact les fluides corrosifs ou conducteurs
- Recyclage correct des batteries

### DESCRIPTION FONCTIONNELLE



### Température de chargement

Température ambiante de charge recommandée ..... 5°C à 40°C (40°F à 105°F)

### Indicateur de charge de la pile

Utiliser l'indicateur de charge de la pile pour déterminer l'autonomie restante du bloc de piles. Appuyer sur le bouton de l'indicateur de charge de la pile pour afficher les témoins. L'indicateur de charge de la pile s'allume pendant 2 à 3 secondes. Un témoin sur l'indicateur de charge de la pile clignotera lentement s'il reste moins de 10 % de la charge.

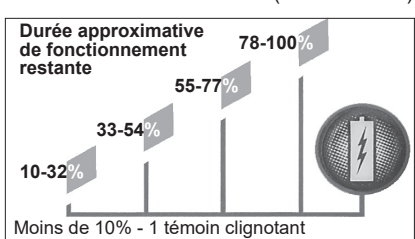
**NOTE :** Si l'indicateur de charge de la pile ne semble pas fonctionner, placer le bloc de piles sur le chargeur et le charger, au besoin. Contrairement aux blocs de piles au nickel-cadmium, les blocs-piles au lithium-ion MILWAUKEE offrent une puissance constante tout au long de leur durée d'utilisation. L'outil ne montrera aucune perte de puissance lente et graduelle pendant le travail. Un témoin sur l'indicateur de charge de la pile clignotera rapidement pendant 2 à 3 secondes si la pile est vide; l'outil cessera de fonctionner. Charger le bloc de piles.

**NOTE :** Immédiatement après utilisation du bloc de piles, l'indicateur de charge de la pile peut afficher une charge inférieure qu'il ne le ferait quelques minutes plus tard. Les éléments de la pile « récupèrent » une partie de leur charge après une période de repos.

### Protection du bloc de piles

Pour protéger le bloc de piles et prolonger sa durée de vie, le circuit intelligent du bloc de piles surveille les appels de courant et la température. En cas de couple extrêmement élevé, de coincement, de calage et de courts-circuits, le bloc de piles mettra l'outil HORS TENSION si l'appel de courant est trop élevé. Tous les témoins de l'indicateur de charge de la pile clignoteront. Relâcher la gâchette et redémarrer l'outil.

Dans des conditions extrêmes, la température interne de la pile peut devenir excessive. Si cela se produit, les témoins de l'indicateur de charge de la pile clignoteront en alternance et l'outil cessera de fonctionner. Laisser la pile refroidir.



Témoins de l'indicateur de charge de la pile	Diagnostic	Solution
Témoins 1 à 4 – allumés	Autonomie restante	Poursuivre le travail
1 témoin – clignote lentement	Moins de 10% d'autonomie restante	Se préparer à charger le bloc de piles
1 témoin – clignote rapidement	Fin de la décharge	Charger le bloc de piles
Témoins 1 à 4 – clignotent rapidement	Appel de courant trop élevé	Relâcher la gâchette et redémarrer, réduire la pression
Témoins 1 et 3 ou 2 et 4 – clignotent en alternance	Température de la pile trop élevée	Relâcher la gâchette et laisser la pile refroidir

