

# HEARING PROTECTION

Scan QR Code for Noise Thermometer Chart:



### THE DECIBEL CHART



# THE DECIBEL CHART

Operating in a noisy workplace that's louder than 85 decibels (dB)? You'll need individual Hearing Protection Devices (HPDs)! Working in areas with dangerous noise levels without a proper HPD can result in hearing loss or deafness. Protect your hearing today with our extensive range of HPDs to choose from: **earplugs, earmuffs, and hearing bands.** 

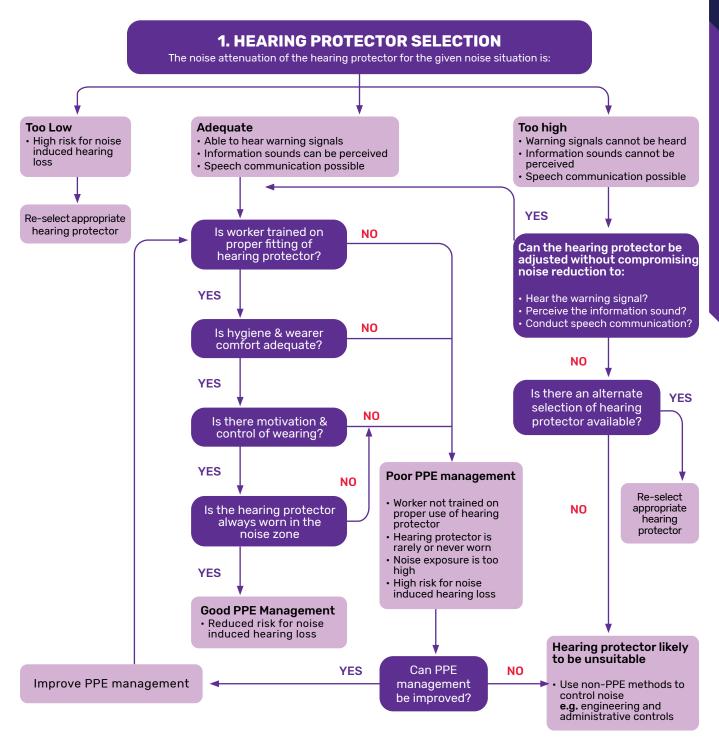
It can be challenging to find a HPD that's just right for your workplace. If the Noise Reduction Rating is too high, your employees won't be able to communicate well or listen for warning signals. But HPDs are very important! Hearing loss can occur if overprotected employees remove their HPDs to talk or don't wear their HPDs properly.

| Type of HPD                       | Type of HPD Construction  |  |
|-----------------------------------|---|--|
| Formable earplugs                 | Expandable foam   | One size fits most.                          |
| Pre-molded earplugs               | Flexible plastics   | Different sizes                              |
| Semi-aural devices/<br>canal caps | Flexible tips on lightweight headband                             | Less protection. Good for intermittent usage |
| Earmuffs                          | Rigid cups with soft, plastic cushions that seal around the ears. | Adjustable headband                          |



# **FLOW CHART**

### THE SELECTION OF HEARING PRODUCTS\*



<sup>\*</sup> Quoted from page 22 of SS549:2009 standards

# PROTECTED NOISE LEVEL CALCULATIONS USING NRR\*

#### DE-RATED NRR

NIOSH RECOMMENDS DERATING THE NRR BY A MULTIPLICATIVE FACTOR:



**EARMUFFS** 

**75**%



**FORMABLE EARPLUGS** 

**50**%



**ALL OTHER EARPLUGS** 

**30**%

#### **HOW TO USE THE DE-RATED NRR?**

There are two basic formulas, depending on whether unprotected exposure levels were measured on a C-weighted (dBC) or an A-weighted (dBA) scale.

#### For C-weighted measurements:

Protected dBA = Unprotected dBC - De-rated NRR Where the protected dBA and unprotected dBC are 8-hour time-weighted averages determined according to the Occupational Noise Standard.

For example, if a earmuff has a NRR of 20 dB (derated NRR of 15 dB) and it is used in an environmental noise level of 90 dBC, the noise level entering the ear is expected to be 75 dBA [90 - 15 = 75].

#### For A-weighted measurements:

Protected dBA = Unprotected dBA - [De-rated NRR - 7] Where the protected and unprotected dBA are 8-hour weighted averages determined according to the Occupational Noise Standard. The 7 dB correction factor is used to account for the de-emphasis of low-frequency energy inherent to the A-weighting scale (dBA).

Using the same example above, if a earmuff has a de-rated NRR of 15 dB and environmental noise level of 90dBA, the noise level entering the ear is expected to be 82 dBA [90 - (15 - 7) = 82]

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#### **EARPLUG FITTING INSTRUCTIONS**<sup>^</sup>

To get the best protection, ensure that your earplugs are inserted properly and fits well.





With clean hands, roll the entire earplug into narrowest possible crease-free cylinder.



Reach over your head with a free hand, pull your ear up and back, and insert the earplug well inside your ear canal.



Hold for 30 – 40 seconds, until the earplug fully expands in your ear canal. If properly fitted, the end of the earplugs should not be visible to someone looking at you from the front.





While holding the stem, reach a had over your head and gently pull top of your ear up and back.



Insert the earplug so all flanges are well inside your ear canal.



If properly fitted, the tip of the earplug stem may be visible to someone looking at you from the front.

https://safety.honeywell.com/content/dam/his-sandbox/marketing/hearing-protection/documents/HL\_posters\_honeywell\_howard\_leight\_earplug\_fitting\_instructions\_poster\_2017.pdf

<sup>\*</sup> Adapted from Honeywell:

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### **DISPOSABLE EARPLUGS**

#### **HOWARD LEIGHT EARPLUGS**

- · Ideal size for workers with smaller ear canals
- · Low pressure polyurethane foam expands gently for comfortable long-term wear
- · Contoured T-shape for easy handling and wear
- · Closed, soil-resistant cell-foam skin prevents dirt build-up
- Bulk refills available for Leight® Source LS-400 and LS-500 **Earplug Dispensers**











| BRAND         | PRODUCT CODE | DESCRIPTION   |
|---------------|--------------|---|
| HOWARD LEIGHT | HLULL-1      | Laser Lite® Uncorded, Polybag,<br>NRR 32 (200prs/box) |
| HOWARD LEIGHT | HLULL-30     | Laser Lite® Corded, Polybag,<br>NRR 32 (100prs/box)   |
| HOWARD LEIGHT | HLUMAX-1     | Max® Uncorded, Polybag,<br>NRR 33 (200prs/box)        |
| HOWARD LEIGHT | HLUMAX-30    | Max® Corded, Polybag,<br>NRR 33 (100prs/box)          |

### **DISPOSABLE EARPLUGS**

#### **MOLDEX PURA-FIT® FOAM EARPLUGS**

- 100% PVC-Free®
- · Longer length for easy fitting and removal
- · Bright green colour for compliance checks
- Tapered for easy insertion for most ear canal sizes
- · Non-irritating, smooth surface for added comfort
- · Hygienically packaged in biodegradable paper pouches

| BRAND  | PRODUCT CODE | DESCRIPTION   |
|--------|--------------|---|
| MOLDEX | MMI6800      | Pura-Fit® Disposable<br>Earplugs, Uncorded, NRR 33,<br>(200prs/box, 10box/case) |
| MOLDEX | MMI6900      | Pura-Fit® Disposable<br>Earplugs, Corded, NRR 33,<br>(100prs/box , 20box/case)  |





#### **HOWARD LEIGHT X-TREME® EARPLUGS**

- · Bright colours offer high visibility and worker compliance
- · Smooth tapered shape for easy insertion and removal
- · Corded version helps to guard against earplugs falling onto the floor
- · Conveniently sized hand dispensing option for easy
- · Wall dispenser unit allows a refillable option for the whole work area

| BRAND         | PRODUCT CODE | DESCRIPTION  |
|---------------|--------------|--|
| HOWARD LEIGHT | HLUXTR-1     | X-Treme® Uncorded, Polybag,<br>NRR 32 (200prs/box) |
| HOWARD LEIGHT | HLUXTR-30    | X-Treme® Corded, Polybag,<br>NRR 32 (100prs/box)   |





# PLUGSTATIONS/DISPENSER



#### **MOLDEX CORDED/UNCORDED PLUGSTATION® WITH PURA-FIT®**

- · Increases compliance
- · Puts plugs in easily accessible areas
- · Sealed PlugStations ensure plugs stay sanitary
- · Affordable enough to mount in any location that requires hearing protection
- · Clicking mechanism for easy use and dispensing

| BRAND  | PRODUCT CODE | DESCRIPTION  |
|--------|--------------|--|
| MOLDEX | MMI6882      | Plugstation 150 Pairs of<br>Pura-Fit® Corded, NRR 33<br>(with Mounting Bracket)    |
| MOLDEX | MMI6844      | Plugstation with 250 Pairs of<br>Pura-Fit® Plug, NRR 33<br>(250prs/6box-disp/case) |
| MOLDEX | MMI6845      | Plugstation with 500 Pairs of<br>Pura-Fit® Plug, NRR 33<br>(500prs/4box-disp/case) |











PURA-FIT® 6844/6845



## PLUGSTATIONS/DISPENSER



- · Antimicrobial-Protected Dispenser
- · Universal hole positions eliminates the need to drill new holes
- Durable, recyclable plastic canister an economical choice for dispensing earplugs
- · Easy twist knob with 180° of access makes dispensing earplugs easy
- Compatible with all Howard Leight™ disposable earplugs - MAX®, MAXLite®, Laser Lite® and X-TREME®
- · Available with prefilled canister and multiple refill options: Replace the empty canister / Refill the canister with a traditional zip-top bag.



| BRAND         | PRODUCT<br>CODE         | DESCRIPTION   |
|---------------|-------------------------|---|
| HOWARD LEIGHT | HLUHL400                | Earplugs Dispenser HL400<br>Light Frame   |
| HOWARD LEIGHT | HLUHL400-AM             | Dispenser Antimicrobial Knob-<br>frme   |
| HOWARD LEIGHT | HLUHL400-XTR-<br>REFILL | Prefilled Canister for HL 400<br>(400prs/case) Model (X):<br>MAX (Max <sup>®</sup> ), LPF (Max Lite <sup>®</sup> ),<br>LL (Laser Lite <sup>®</sup> ), XTR (X-Treme <sup>®</sup> ) |
| HOWARD LEIGHT | HLUXTR-LS4-<br>REFILL   | Refill for Dispenser<br>(200prs/bag) Model (X):<br>MAX (Max <sup>®</sup> ), LPF (Max Lite <sup>®</sup> ),<br>LL (Laser Lite <sup>®</sup> ), XTR (X-Treme <sup>®</sup> )           |

## PLUGSTATIONS/DISPENSER





#### **HOWARD LEIGHT LS-500 LEIGHT® SOURCE DISPENSER**

- · Heavy-duty anodized aluminium withstands constant use
- · Mount on wall for easy access
- · Crank handle to dispense earplugs
- · Ideal for large factories and process industries
- · Holds 500 pairs of single use earplugs
- · Max®, Max Lite®, Laser Lite®, Quiet® bulk bag refills available

| BRAND         | PRODUCT CODE | DESCRIPTION   |
|---------------|--------------|---|
| HOWARD LEIGHT | HLULS-500    | Ear Plug Dispenser LS-500                                   |
| HOWARD LEIGHT | HLUMAX-1-D   | Max®, Uncorded, Refill for<br>LS-500 (500prs/box)           |
| HOWARD LEIGHT | HLULL-1-D    | Laser Lite® Uncorded, Refill for LS-500, NRR32 (500prs/box) |

## **REUSABLE EARPLUGS**

#### **WORKSAFE® TRI-FLANGE PLUGS**



Nrr<sup>25</sup>

**S**nr 31

- The WORKSAfe Tri-Flange Plugs are a convenient and reusable tool that safeguards your hearing in loud environments
- Comes with a carrying case and cord for easy storage and deployment
- This product has been tested according to EN352-2:2020 and ANSI S3.19







| BRAND     | TYPE     | PRODUCT CODE | DESCRIPTION  |
|-----------|----------|--------------|--|
| WORKSAFE® | Earplugs | WSPTRIFL     | Tri-Flange Plugs, Corded in BB<br>Box w Chain, SNR 31db,<br>NRR 25db<br>(100pair/box,10box/case) |

### **REUSABLE EARPLUGS**

#### **MOLDEX ROCKETS® EARPLUGS**

- · 100% PVC-Free®
- · Easy grip handle for insertion and removal
- · Air bubble tip provides cushioned comfort
- · Brightly coloured for easy compliance checks
- · Can be washed and reused
- Pocket-Pak® carrying case provides hygienic storage of plugs between uses

| BRAND  | PRODUCT CODE | DESCRIPTION  |
|--------|--------------|--|
| MOLDEX | MMI6405      | Rocket Earplug Corded with<br>Case, NRR 27<br>(50prs/box, 4box/case) |





# MOLDEX JETZ® REUSABLE EARPLUGS

- · 100% PVC-Free®
- · Extra-soft material
- Triple flange design seals gently and snugly without pressure
- Cloth cord for a variety of working conditions locks securely to plug
- Bright green plugs and cord make compliance checks quick and easy

| BRAND  | PRODUCT CODE | DESCRIPTION  |
|--------|--------------|--|
| MOLDEX | MMI6455      | Jetz® Reusable Corded<br>Earplug, NRR 27<br>(50prs/box, 4box/case) |





# MOLDEX FLIP TO LISTEN™ DUAL MODE REUSABLE EARPLUGS

- 100% PVC-Free®
- Flip cap allows you to easily switch from a closed position (NRR 24dB) to an open position (NRR 4dB)
- · Triple flange design provides all day comfort
- · Earplugs can be washed and reused
- Pocket-Pak® carrying case provides hygienic storage of plugs between uses
- · Comes with optional cloth cord

| BRAND  | PRODUCT CODE | DESCRIPTION  |
|--------|--------------|--|
| MOLDEX | MMI6770      | Flip To Listen Dual Mode<br>Earplugs, Includes Cord and<br>Pocket-pak®<br>(50prs/box, 4box/case) |



## **REUSABLE EARPLUGS**

# HOWARD LEIGHT AIRSOFT® EARPLUGS

- Advanced air pocket design features internal noiseblocking fins
- · Four flange profile creates better seal in the ear canal
- Firm stem, tapered shape makes for easy insertion and removal



Attachable Reusable Case For Easy Carriage & Help Keeps Earplugs Clean

| BRAND         | PRODUCT CODE | DESCRIPTION   |
|---------------|--------------|---|
| HOWARD LEIGHT | HLUAS-30R    | Airsoft® Corded Red, Impact<br>Case, NRR 27 (50prs/box) |
| HOWARD LEIGHT | HLUDPAS-30R  | Airsoft® Corded Red, Polybag,<br>NRR 27 (50prs/box)     |







# HOWARD LEIGHT QUIET® EARPLUGS

- · Patented "no-roll" design is easy to handle and fit
- Contoured shape comfortably matches contours of the ear canal
- Smooth, non-irritating skin provides all-day comfort, easy to clean for long-term use
- · Built-in insertion stem makes insertion quick and easy

| BRAND         | PRODUCT CODE | DESCRIPTION                                     |
|---------------|--------------|---|
| HOWARD LEIGHT | HLUQD30      | Quiet®, Corded, Polybag,<br>NRR 26 (100prs/box) |



# HOWARD LEIGHT SMARTFIT® EARPLUGS

- Patented Conforming Material Technology™ uses body heat to adapt to the individual shape of each wearer's ear canal
- · Delivers superior comfort and a truly individual fit
- Simplified inventory control a single product fits almost every wearer
- · Unique detachable cord system
- · Comes in Hear Pack® storage case

| BRAND         | PRODUCT CODE | DESCRIPTION  |
|---------------|--------------|--|
| HOWARD LEIGHT | HLUSMF-30    | Smart Fit® Detachable Cord,<br>Hearpack Case<br>(100prs/box, 10box/case) |

### **EARMUFFS**







MX-7

Vrr 28

#### **MOLDEX MX EARMUFF**

- Soft cushion-ribbed open air headband for cool comfort all day long
- Overmolded headband is durable for rugged wear over many shifts
- Larger ear cushions allow freedom to fit almost all ears comfortably
- Lightweight wire frame allows easy cup adjustment yet holds its position
- PVC-Free

| BRAND  | PRODUCT CODE | DESCRIPTION          |
|--------|--------------|----------------------|
| MOLDEX | MMI6120      | MX-5 Earmuff, NRR 27 |
| MOLDEX | MMI6140      | MX-7 Earmuff, NRR 28 |

### **VERISHIELD™ 100 SERIES**

**Honeywell** 

HOWARD

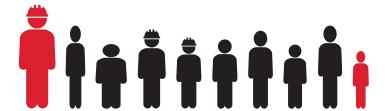
#### VeriShield 100 Series

Passive Earmuffs are designed for optimum comfort





#### **FEATURES**



**17%** 

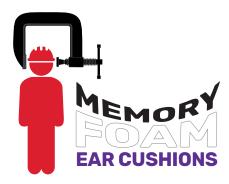
MORE ADJUSTMENT

Comfortably fits a wider range of head sizes



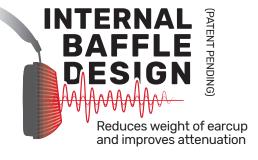


oil-resistant cup surface



Denser and softer for greater comfort/attenuation







VISIBLE
ATTENUATION RATINGS
Marked on the earmuff cup

<sup>^</sup> Graphics adapted from Honeywell.





### **EARMUFFS**







# HONEYWELL VERISHIELD™ DIELECTRIC VS130DH, HELMET

- Large dimension range: Appropriate for a wide range of head sizes
- · Durable dielectric headband for electrical environments
- · Memory foam ear cushions: attenuation
- Wide cup opening: Ideal for workers with larger ears, or for those who wear hearing aids
- Variety of head attach options for effortless PPE integration

| BRAND     | PRODUCT CODE  | DESCRIPTION                                       |
|-----------|---------------|---|
| HONEYWELL | H0N1035205-VS | Verishield™ Dielectric<br>VS130DH, Helmet, SNR 30 |

#### HONEYWELL VERISHIELD™ VS120F, FOLDABLE EARMUFF

- Large dimension range: Appropriate for a wide range of head sizes
- · Lightweight cushioned headband: Enhances comfort
- · Memory foam ear cushions: attenuation
- Wide cup opening: Ideal for workers with larger ears, or for those who wear hearing aids

| BRAND     | PRODUCT CODE  | DESCRIPTION                            |
|-----------|---------------|--|
| HONEYWELL | H0N1035141-VS | Verishield™ VS120F, Folding,<br>SNR 32 |



#### HONEYWELL VERISHIELD™ VS120H, HELMET

- · Airflow control technology
- · Steel wire construction
- · Snap-in ear cushions
- · NRR 23 (noise reduction rating)
- · Helmet Style includes adapters for most hard hats

| BR   | AND   | PRODUCT CODE  | DESCRIPTION   |
|------|-------|---------------|---|
| HONE | YWELL | H0N1035122-VS | Verishield™ VHelmet Earmuff,<br>Ear Defenders, SNR 30 |

### **EARMUFFS**



# VS110M, MULTIPOSITION • Large dimension range: Appropriate for a wide

**HONEYWELL VERISHIELD™** 

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- · Memory foam ear cushions: attenuation
- Wide cup opening: Ideal for workers with larger ears, or for those who wear hearing aids
- Variety of head attach options for effortless PPE integration

| BRAND     | PRODUCT CODE  | DESCRIPTION   |
|-----------|---------------|---|
| HONEYWELL | H0N1035185-VS | Verishield™ Dielectric VS110M,<br>Multiposition, SNR 32 |





# HONEYWELL VERISHIELD™ DIELECTRIC, MULTIPOSITION

#### Industries:

- · Building and Construction
- · General Industry
- Maintenance

| BRAND     | PRODUCT CODE  | DESCRIPTION                                      |
|-----------|---------------|--|
| HONEYWELL | H0N1035188-VS | Verishield™ Dielectric,<br>Multiposition, SNR 35 |



### HONEYWELL VERISHIELD™ VS130, NECKBAND



- · Lightweight cushioned headband
- · Memory foam ear cushions: attenuation
- Wide cup opening: Ideal for workers with larger ears, or for those who wear hearing aids
- · Robust construction









