



**MSA**  
*The Safety Company*

***LH 350  
Product  
Presentation***



***EVERY LIFE HAS A PURPOSE...***

LH 350 110119



## LH 350 - product presentation

Which application...

LH 350 is specifically designed for helicopter applications:

- Safety, protection and comfort
- Mission capacity
- Compatibility with aircraft system and peripherals



## LH 350 - product presentation

How it looks...





# LH 350 - product presentation

How it looks...





## LH 350 - product presentation

### Key orientations...

- **Extreme Sizes** 3 ranges of size for 52 to 64 cm
- **Smooth surface** Safety, center of gravity
- **NVG capability** Optimization of position
- **Noise protection** Better noise attenuation
- **Shock resistance** Higher energy for lower deceleration
- **Penetration resistance** Higher energy
- **Weight optimization** Better ratio: protection / weight
- **Comfort** New comfort liner + adjustable neck pad
- **Chin strap** Easier locking system and adjustment
- **Stability** 4 points chin strap
- **Electronic centralization** Back central positioned
- **Access to the visors** 2 visors removable without tool

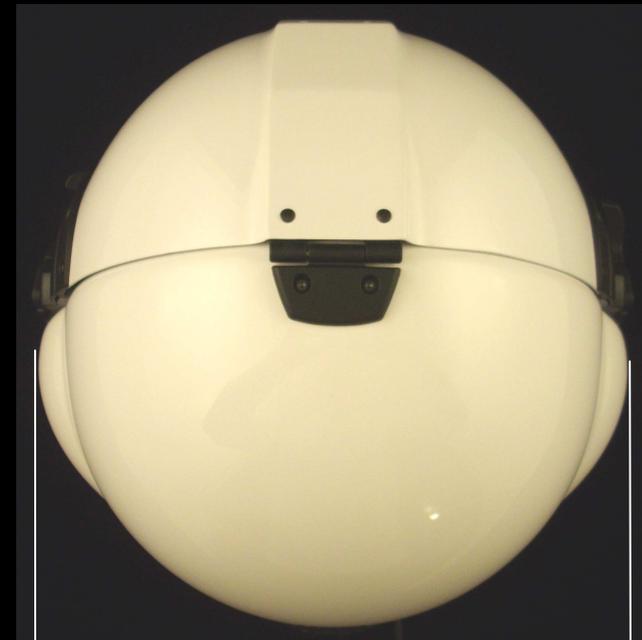


## LH 350 - product presentation

### Extreme Sizes...

- 3 ranges of size:
  - S size shell: 52 to 55cm head size
  - M size shell: 56 to 59cm head size
  - L size shell: 60 to 64cm head size

... better size optimization of the helmet with contained width



S : 276 mm

M : 293 mm

L : 310 mm





## Smooth surface...

## LH 350 - product presentation

- 2 outer integrated visors:
  - No step between shell and hardcover
  - Full protective and integrated hard cover
- Integrated electronic connections box
- Night Vision Goggle (NVG) power supply box support
- Specific helmet shell shape in ear cups area



... safety, center of gravity position,  
reduced inertia, easier head mobility

NVG: Night Vision goggle



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### Smooth surface...

- Integrated lateral visor adjustment levers

#### Right lever

Inner visor  
Adjustment



#### Left lever

Outer visor  
Adjustment





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### NVG capability...

- Thickness optimization in the front:
    - Optimization distance eye – optical tubes
    - Better balanced helmet when using NVG
  - Carbon fiber hard cover ready for ANVIS interfaces.
  - NVG power supply box support:
    - Mechanical support for power supply box
    - Integrated electronic capability
- ... more integrated, more rigid and ready for the future



NVG: Night Vision goggle  
ANVIS: Aviation Night Vision Imaging System



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## Noise protection...

- More volume
- New ear cup material
- New acoustic foam
- Specific leather ear seal



LH 350

LH 250

Frequency (Hz)	63	125	250	500	1000	2000	4000	8000	16000
IL (dB) LH 350	4,3	8,3	11,1	24,7	27,8	28,3	53	52,1	36,5

... low frequencies attenuation optimization (helicopter environment)

IL: Insertion Loss



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### Shock resistance...

- High performance composite shell
  - Optimal shape and density impact cap
  - Ear cup soft material (side shocks)
- ... USAARL protection level: high impact energy (60 crown to 90 J all other areas) with low deceleration

Single impact, flat anvil,  
+50°C and -10°C  
ANSI Z90.1-1992 5 kg head form

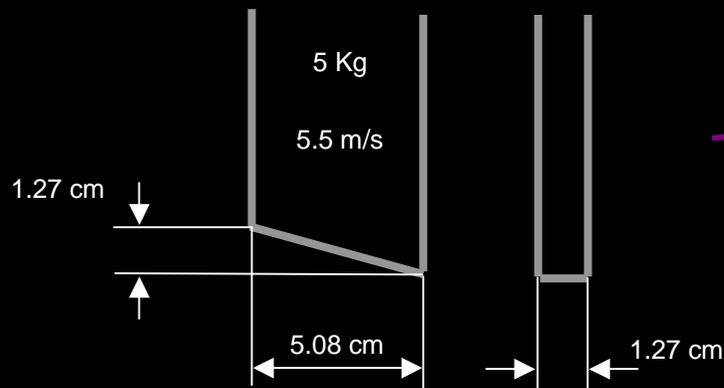
	Impact Speed (m/s)	Max deceleration (g)
Crown	4.90	150
Left earcup	6.00	150
Right earcup	6.00	150
Front	6.00	175
Rear	6.00	175
Left side	6.00	175
Right side	6.00	175



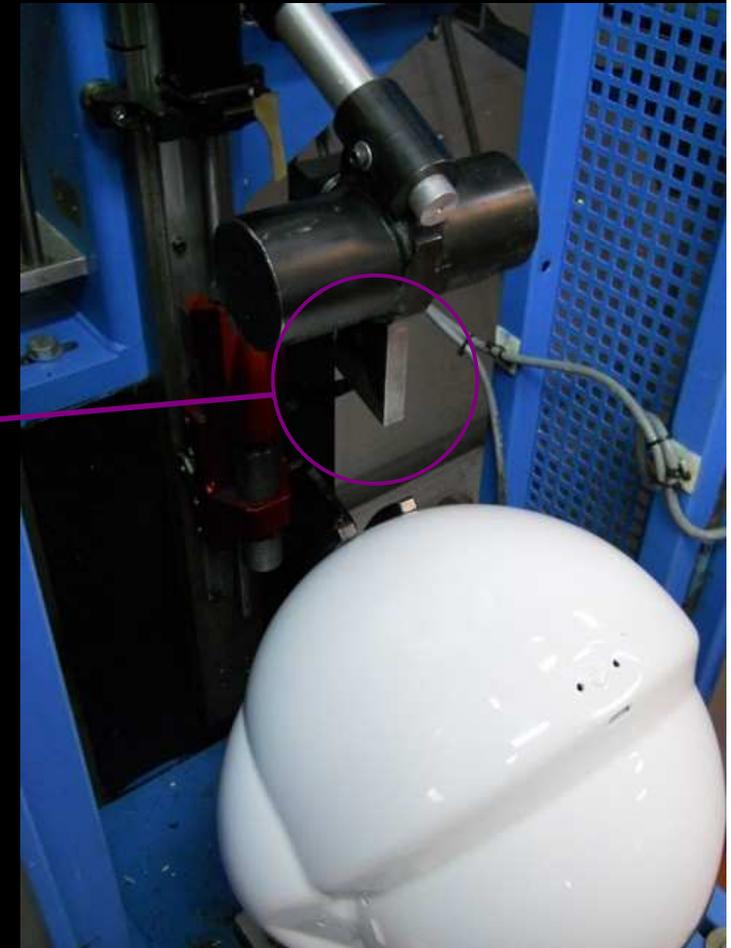
## LH 350 - product presentation

### Penetration resistance...

- High performance composite shell



... USAARL material performance  
tear test level: high energy (75 J)





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### Weight optimization...

- Volumes, material optimization
- Integration of functions

Helmet configuration: with ANVIS NVG support

Size (cm)	52	53	54	55	56	57	58	59	60	61	62	63	64
LH 350 weight (kg)	1190				1220			1310					

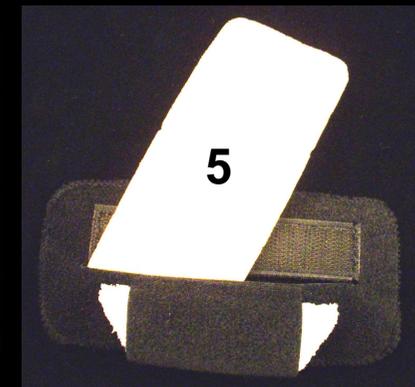
... 57, 58 and 59 cm sizes weight gain. Better comfort during flight, less weight if crash without contact



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### Comfort...

- 3 different thickness in 4 areas adjustable comfort liner (see 1 - 4)
- 3 different thickness adjustable neck pad (see 5)
- 3D fabric



... helmet wear time increase due to better mechanical and thermal comfort



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### Chin strap...

- Press to release
- Strength: USAARL level (above 1956 N)



... easy locking system and adjustment (left hand)



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### Stability...

- 4 points chinstrap - adjustable 2 straps open chin cup
- Adjustable comfort liner and neck pad
- 3 ranges of size for better fitting
- Center of gravity position and reduced inertia



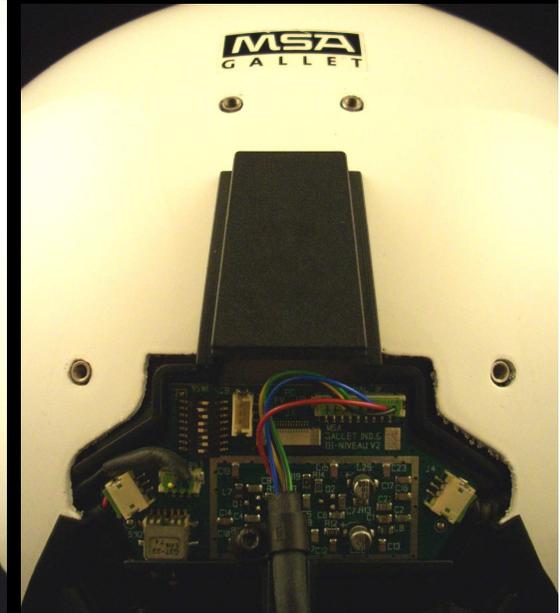
... flight comfort



## LH 350 - product presentation

### Centralization of the electronic...

- Easy wiring configuration
- Integrated dual level switch
- Access for maintenance



... easy to configure and maintain



## LH 350 - product presentation

### Access to the visors...

- 2 visors removable without any tool
- After opening, access independently to inner or outer visor



... independent access without any tool for easy helmet mission configuration



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**MSA**  
GALLET

Thank you  
for your time...

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