

PRESENTATION HANDGRENADES



Weapon and Munitions division Locations



Virginia



Trittau

Unterlüß

Silberhütte

Schwanenstadt

Neuenburg

Fronau

Bonn and Lohmar

Oberndorf

Zürich / Altdorf / Studen

Lainate



HANDGRENADES

- **NON LETHAL HGr**

- STUN HGr

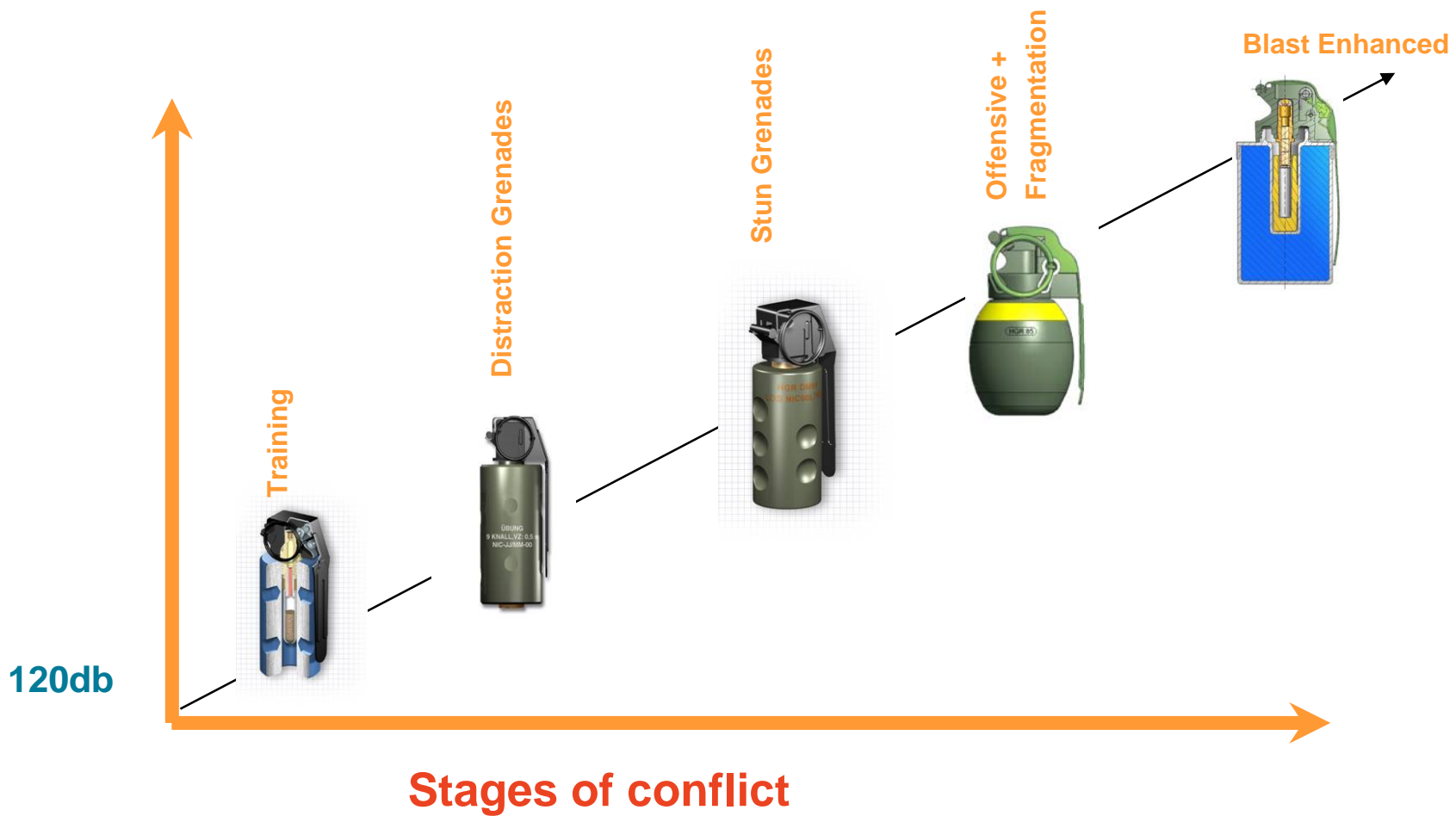
- **COMBAT HGr**

- OFFENSIVE HGr
- FRAGMENTATION HGr
- SIBEX HGr

- **SMOKE HGr**

- SPIRKO – RP SMOKE HGr
- NT & KM SCREENING SMOKE HGr







NON LETHAL HGr / SOUND & FLASH HGr

- Intended Use:
 - Temporarily irritation and disorientation of persons
 - To make persons temporary incapable of action

- Produkt Charakteristik:
 - Non lethal
 - No metall fragments will be produced



NON LETHAL HGr / SOUND & FLASH HGr

- **Intended Use:**
Distraction/Stun Grenade
- Hostage Rescue
- Arrestment
- Peace Enforcing



- 9-Bang (Aluminium Body)
- Effect:
165 dBA at 2m
1,5 Mio. candela
- Delay Time: 0,5s; 1,5s
- Weight: 330g



- 7-Bang
- Effect:
160 dBA at 3m
1,5 Mio. candela
- Peripheral Dispersion
- Delay Time: 1,5s
- Weight: 260g



NON LETHAL HGr / SOUND & FLASH HGr

■ Intended Use: Stun Grenade

- Hostage Rescue
- Arrestment
- Peace Enforcing



■ 1- / 2-Bang

- Effect 1-Bang:
170 dBA at 2m
4,5 Mio. candela
- Effect 2-Bang:
170 dBA at 2m
3,0 Mio. candela
- Delay Time: 1,5s / 0,5s
- Weight: 300g



■ 9-Bang (Steel Body)

- Effect:
165 dBA at 2m
1,5 Mio. candela
- Delay Time: 0,5s
- Weight: 725g



NON LETHAL HGr / SOUND & FLASH HGr

■ Intended Use: Stun Grenade

- Hostage Rescue
- Arrestment
- Peace Enforcing



■ 6-Bang

- Effect:
165 dBA at 2m
1,5 Mio. candela
- Delay Time: 1,0s
- Weight: 550g



NON LETHAL HGr / SOUND & FLASH HGr

■ **Intende Use:** Stun Grenade

- Hostage Rescue
- Arrestment
- Peace Enforcing



1-Bang BTV-EL practice grenade

- 140dBa at 6m distance
- Reuseable body



■ **1-Bang BTV-EL**

- Effect 1-Bang:
180 dBA at 1,22m
3psi at 1,22m
6,0 Mio. candela
- Delay Time: 1,5s
- Weight: 365g





NON LETHAL HGr / SOUND & FLASH HGr

Flexibility = Plus System

If base screw is unscrewed a Plus System may be added.

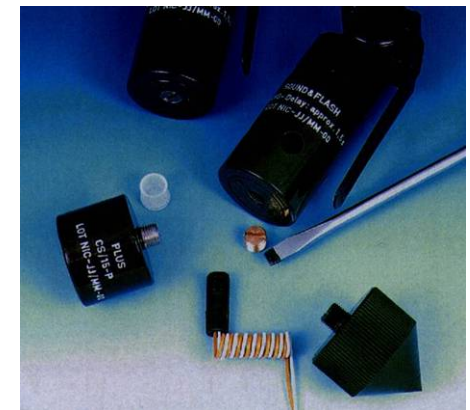
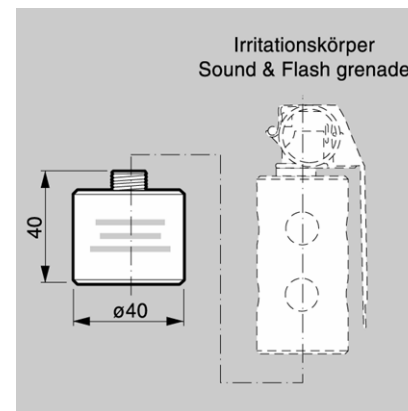
Effects :

- Teargas-Pyrotechnic (CS)
- Irritant-Dust (OC- and CS-Dust)
- Training Dust
- Smoke (NT)
- Metall Spike / Penetrator

Except for 6-Bang and BTV

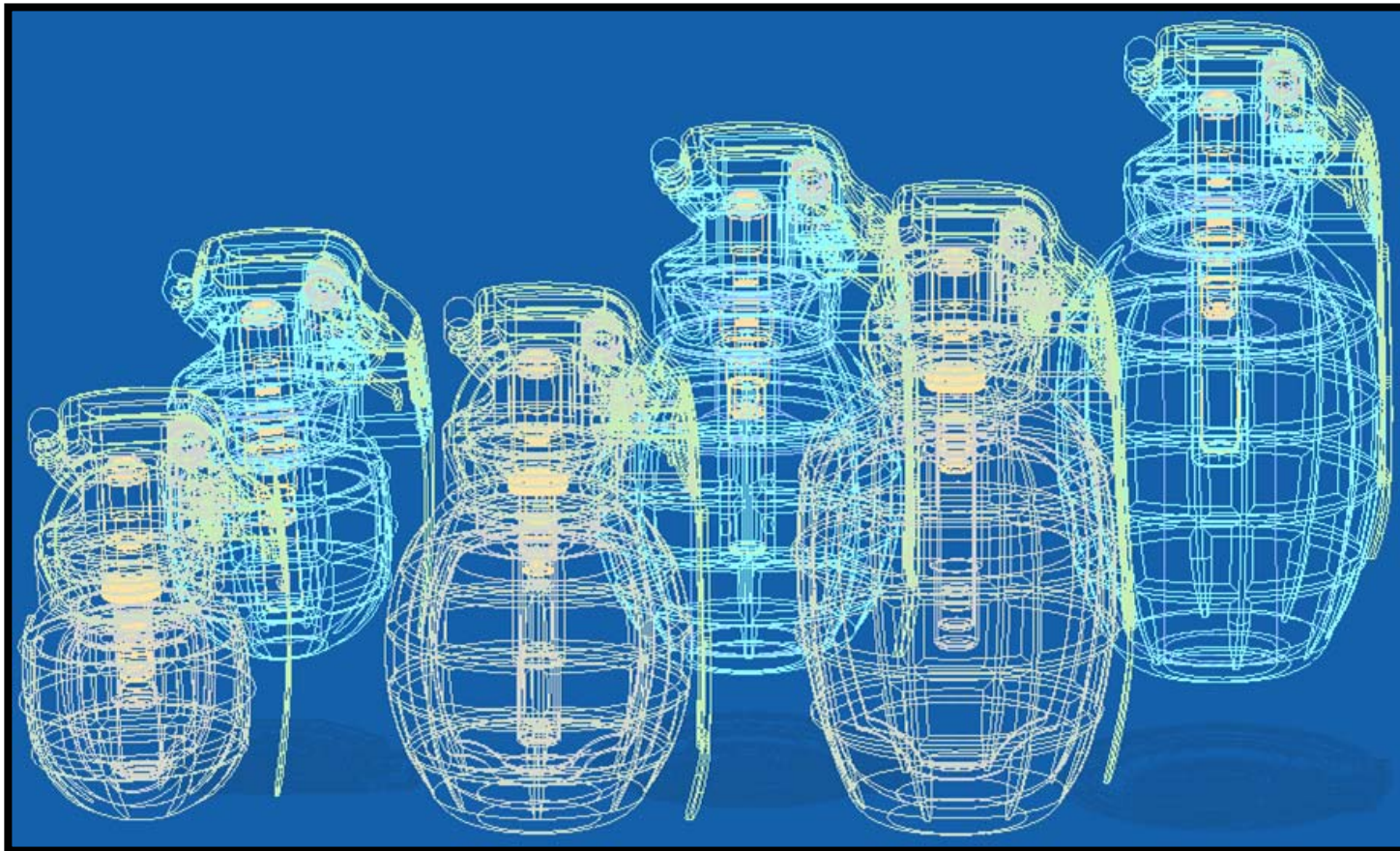
Electric Igniter can also be fitted for remote firing.

Except Blast Grenade and BTV





COMBAT HANDGRENADES





Intended Use:

- MOUT
- Bunker-/Cavefighting
- Open Battlefield

Versions:

- Defensive Handgrenades / Fragmentation Handgrenades
- Offensive Handgrenades (without preformed fragments) / Expandable Handgrenade
- BE Handgrenades
(Blast Enhanced Handgrenades)
- Delay Tubes with Detonator or Pyrotechnical Charge Tube

All Versions are also available as Practice Handgrenades.





Handgrenade 06

Highlights

Fragmentation Body:

A selection of preformed fragments with different weight, size and shape results in different kinds of bodies for different military operations.

V1 - High fragment penetration against a protection vest (U.S. NIJ-3A) with 32 layer Aramid.

V2 - High fragment penetration and distribution on 2mm Al plate at 5m distance and less energy.

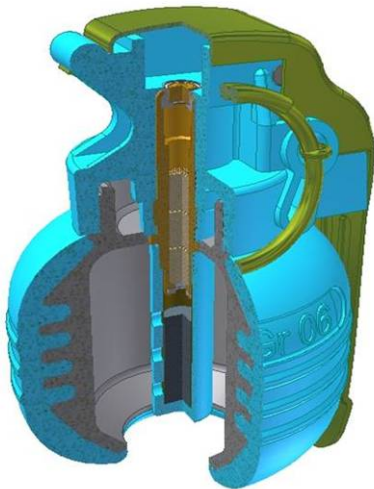
V3 - Fragments with lethal energy till 5m distance.

No fragment penetration against 2mm Al plate at a distance of 15m.

Offensive Handgrenade:

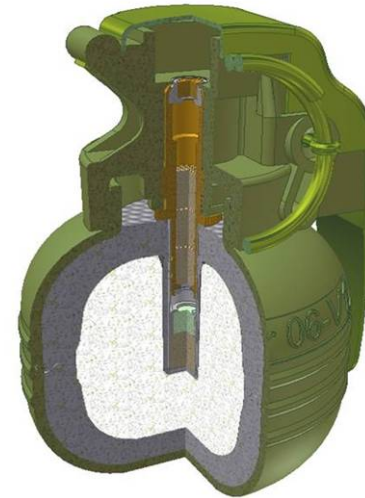
Without preformed fragments

10psi at a distance of 4 feet



Practice Handgrenade 06:

- approx. 110 dBA at 20m
- no injury due to side venting blast holes.





Handgrenade 06

Fragmentation Test - SplHGr 06			
Fragment type	Explosive	Penetration/m ² on Al plate target at 5m distance	Penetration on protection vest (35x40cm) and 2mm Al witness plate at 2m distance; Type U.S. Standard NIJ-3A (32 layer Aramid)
V1 ø 2,00-2,30mm, ca. 4.160 Fragments	appr. 60g RDX	19	33
V max. [m/s]	1.283		
Fragment weight [g]	0,050		
Fragment energy max. [J]	46		
V2 ø 1,25-2,00mm, ca. 10.600 Fragments	appr. 60g RDX	28	16
V max. [m/s]	1.201		
Fragment weight [g]	0,020		
Fragment energy max. [J]	17		
V3 square-edged 2,40- 3,15mm , ca. 2.000 Fragments	appr. 60g RDX	11	11
V max. [m/s]	1.275		
Fragment weight [g]	0,100		
Fragment energy max. [J]	81		

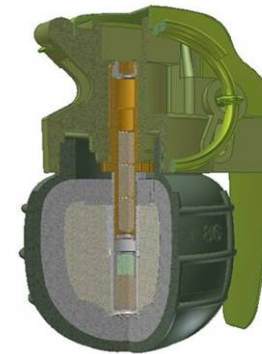


Handgrenade 86

The Handgrenade Type 86 is a low weight/low size Handgrenade. This allows the soldier to carry more Handgrenades than common. Intended use: MOUT

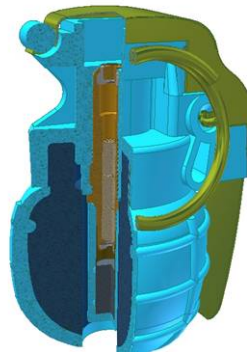
■ **Data:**

Explosive:	17g Nitropenta NSP 74
Fragment:	approx. 1.600 fragments with 2,0-2,3mm diameter
Performance:	3 penetrations/m ² at 5m distance on 2mm aluminium plate target
Delay Time:	4,0sec. standard or according to customer request
Weight:	180g



Practice Handgrenade:

Sound ~ 100dB



Offensive Handgrenade:
Without preformed fragments.

4psi at a distance of 4 feet





Handgrenade 85

The Handgrenade Type 85 is a perfect combination of weight and size in comparison to the excellent fragmentation distribution and penetration effect.

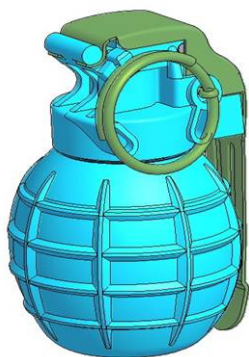
■ Data:

Explosive:	50g Nitropenta NSP 74
Fragment:	approx. 3.500 fragments with 2,0-2,3mm diameter
Performance:	8 penetrations/m ² at 5m distance on 2mm aluminium plate target
Delay Time:	4,0sec. standard or according to customer request
Weight:	340g



Practice Handgrenade:

Sound ~ 120dBA



Offensive Handgrenade:

Without preformed fragments

9psi at a distance of 4 feet



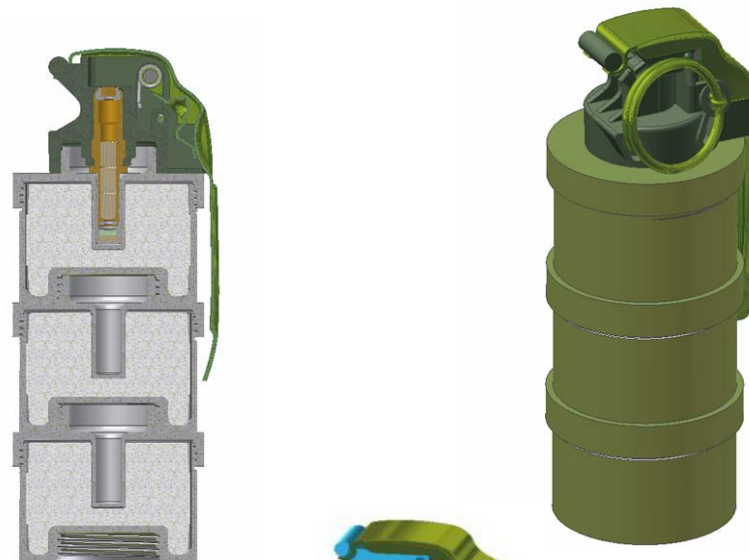


Expandable Handgrenade 08

This type of Handgrenade is especially for bunker and cave battle. The standard version consists of 3 explosive bodies. Depending on the battle field it is possible to add the necessary quantity of explosive bodies per screwing. In future also available with a cutting charge body for penetration of 20mm armored steel plate.

■ **Data:**

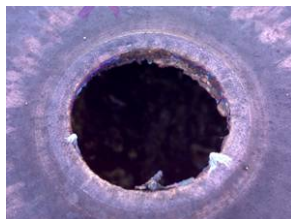
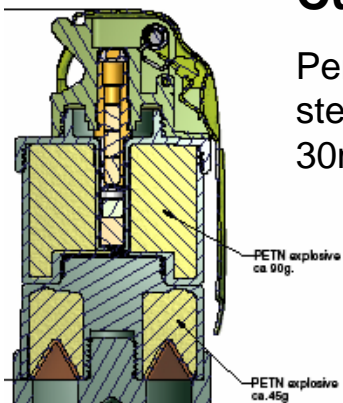
Explosive:	3 x 90g Nitropenta NSP 74
Delay Time:	4,0sec. standard or according to customer request
Weight:	440g



UNDER DEVELOPMENT

Cutting Charge

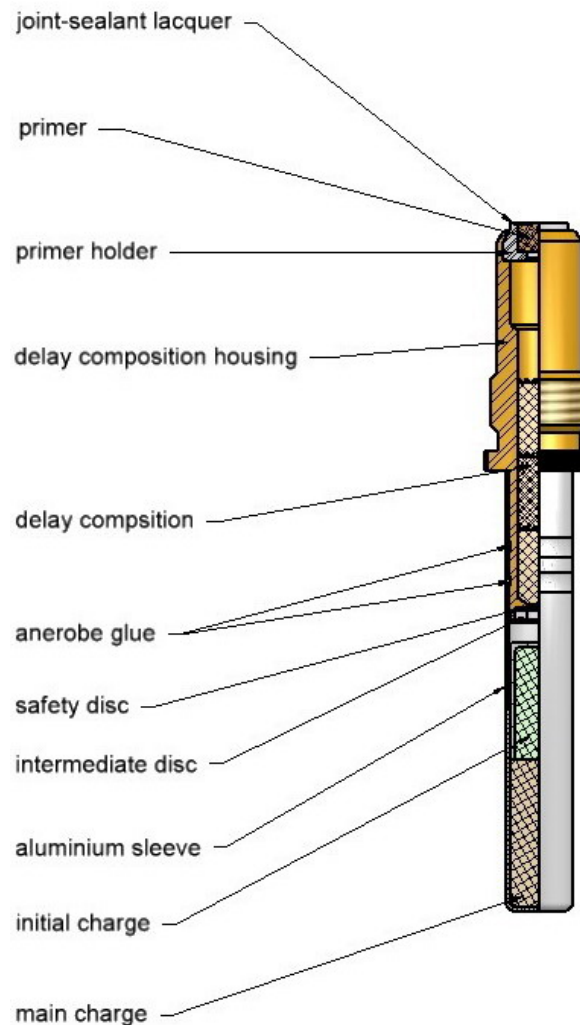
Penetration of 15mm armored steel plate; hole diameter approx. 30mm





Delay Tube with Detonator or Pyrotechnical Charge Tube

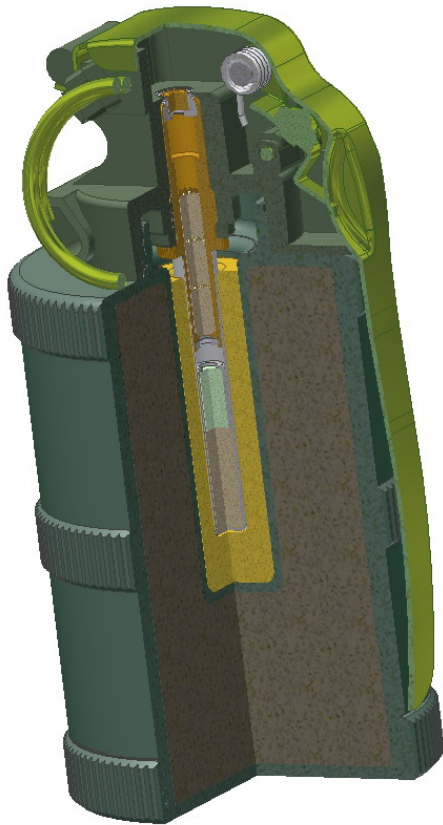
- Highlights:
- ✓ Adjustable delay time to customer request (f.e. 1,3sec., 3,5sec., 4,0sec., 7,0sec, 12sec.)
- ✓ Assembled safety disc which prevents accidents through missing delay composition.
- ✓ Automatic assembling line with 100% automatic check of each part
- ✓ Production output of 5.000pcs. / shift





BE HGr Blast Enhanced Handgrenade

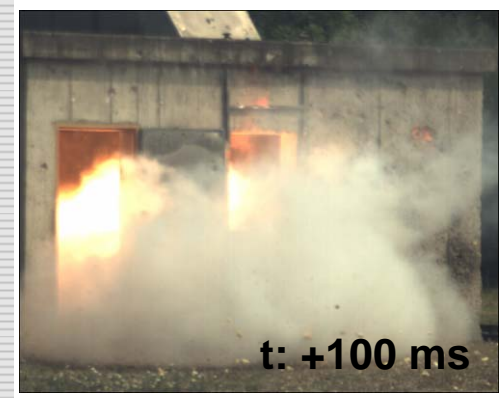
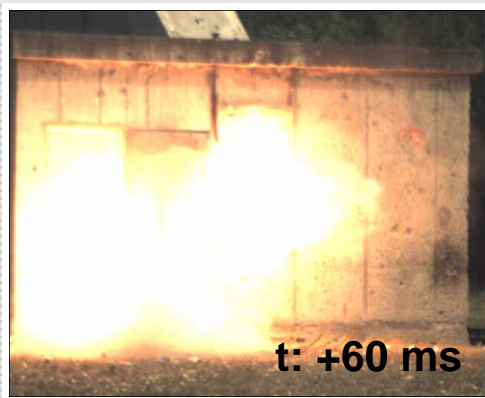
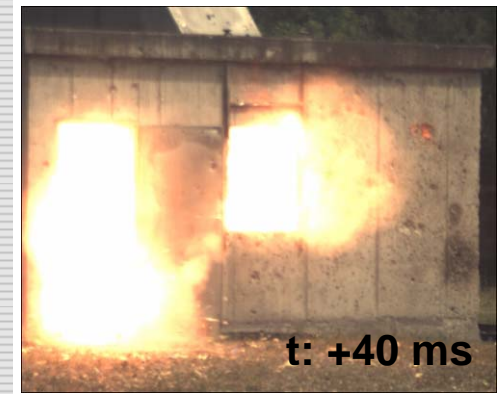
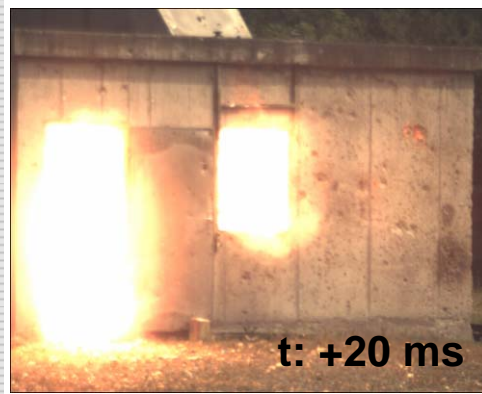
UNDER DEVELOPMENT



BE HGr	
Diameter	approx. 56mm
Length	approx. 121mm
Weight	approx. 300g
Intended use	Room / Bunker combat
Pressure value at 3m distance in a bunker	9 psi

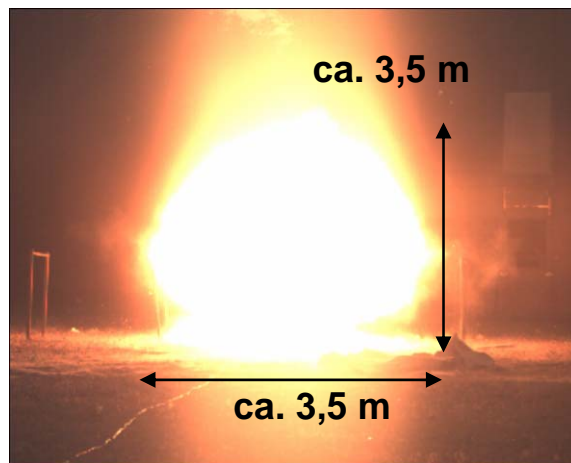


Effect inside a Room with a volume of 65 m³





Effect at open area





SMOKE HANDGRENADES

SPIRICO

■ Intended Use:

- Camouflage in the visible and near infrared area
- Distraction of crowds

▪ Spontaneity

effective smoke protection within 1s after explosion

▪ Volume expansion

The HGr creates an immediately smoke protection over a min. length of 10 m and min. height of 2,5m; smoke duration > 30 sec.

▪ Protection

Camouflage against optical-, night vision- und IR-devices

The IR protection is effective as long as the flares are burning. This is for a max. time of 10sec.





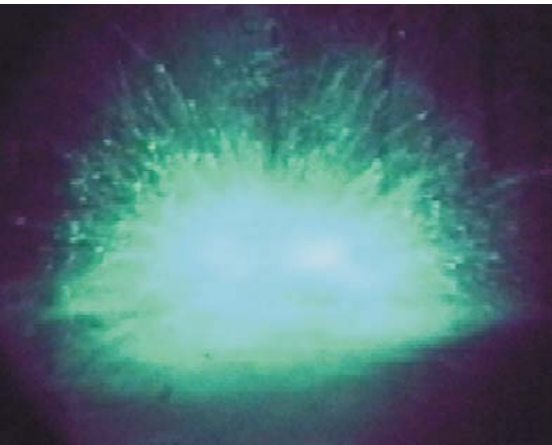
SPIRCO effect in the near IR area



Observation with night vision..



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Detonation of SPIRCO



Effective protection

SMOKE HANDGRENADES

■ Intended Use:

- Camouflaging
- Blinding and confusing of enemy forces

— NT & KM SCREENING SMOKE

- KM = NON TOXIC SMOKE
- Delay Time: 1,5sek.
- Emission Time: approx. 80sek.

