The modified 152 mm HE ammunition with increased firing range
(152 mm HE ER BB).

Technical Parameters of the complete modified 152 mm projectile:

Weight of the cartridge with the fuse KZ-88................................................................. 43.56 kg
Length of the complete projectile without fuse....................................................... 778.0 mm
Length of the complete projectile with the fuse....................................................... 838.0 mm
Connection of the projectile’s body with the Base Bleed.............................................. threaded
Muzzle velocity of missile \( v_0 \) ........................................................................... 750 \( \div \) 760 m/s
Maximum pressure...................................................................................................... 280 MPa
Operation/use temperature limits........................................................................... \(-40 \text{ °C až } +50 \text{ °C}\)

Technical Parameters of the complete modified 152 mm cartridge P740:

Weight of cartridge P740........................................................................................... 15.4 kg
Length / diameter of steel cartridge case.......................................................... 547/Ø 161 mm
Weight of powder D350........................................................................................... 2.372 kg
Weight of powder NQ7p D380................................................................................. 6.528 kg
Max. weight of charge........................................................................................... 9.100 kg
Primer.................................................................................................................. KV-4

Max. range of the modified 152 mm ammunition with Base Bleed......................... 25 700 m
(Max. range of the original 152 EOFd ammunition)................................................... 20 400 m
Firing range increase of the modified 152 mm HE ER BB ammunition of.................. 26%

Manufacturing technology:

The modified 152 mm round composed of:

1. The modified 152 mm round – consists of:
   - Body of 152 mm projectile
   - Explosive filling
   - Fuse
   - Base Bleed consist of:
     - Bottom part
     - Powder charge
     - Primer with the plate
     - Washers

2. The cartridge 152 mm /P 740/ – consists of:
   - Steel cartridge case
   - Powder charge
   - Ignition powder
   - Covers
   - Primer
Manufacturing technology of modified of 152 mm cartridge includes:

- treatment (removal) of the hollow base from the EOFd projectile,
- production of 5” thread on the cartridge case,
- production and elaboration of base bleed for 152 mm cartridge,
- the completion of the adjusted filled 152 mm cartridge with elaborated bottom outlet,
- painting, marking and final inspection of the modernized 152 mm cartridges.

Manufacturing technology of modified of 152 mm cartridge P 740 includes:

- delaboration of the original cartridge Ž 546,
- treatment of the cartridge case and primer for future use,
- manufacturing of the ignition powder and the tube smokeless powder charge,
- elaboration of the powder charge into the cartridge,
- assembly and control of the cartridge.

The method and scope of use

The modified 152 mm / EOFd DV / is divided, high explosive extended range projectile with the base bleed, intended for firing from ShKH, KH37 and D20 guns. It is aimed to destroy live force, trenches, roadblocks, light military equipment, buildings and so on. The modified 152 mm cartridge has remained its original weight and length and thus its use doesn’t require any design changes and any further modifications the existing weapons systems. By the use of the modified 152 mm cartridge with Base Bleed and new charge we achieve extension of firing range to up to 5500 m.

Effect onto environment

Using the modified 152 mm ammunition with extended range hasn’t caused any changes in effect on the environment when compared with currently established and used 152 mm ammunition.

The novelty on the market

The kernel of novelty on the market rests in modification of existing 152 mm ammunition resulting in extended firing range of the ammunition up to 5500 meters, used in currently fielded weapon systems without their adjustment and incurring minimum cost for modifying the current ammunition.

Life cycle costs

By modification of the 152 mm ammunition we do not foresee any changes in lifecycle costs comparing to those of the current 152 mm ammunition.
Reliability and maintainability

The required reliability and durability of the projectile and the cartridge – and thus final assembly of the modified 152 mm ammunition is guaranteed by compliance with all the requirements of the technical documentation and technological procedures. Decisive prerequisite for the reliability and durability of the ammunition is the compliance with the prescribed conditions of storage and handling until its usage. No foreseen maintenance is deemed for the ammunition.

Servicing requirements

Using the modified 152 mm ammunition will not increase the service costs of the operating weapon equipment because of ammunition compliance with the original size and weight. Utilization of modified ammunition will necessitate to amend Firing Tables by parameters resulting from extended range.