

Rifle	Pellet	Mass grams	Velocity ms ⁻¹	RSD of velocity %	Kinetic energy J	Gel penetration cm	Pellet diameter mm
WK137	Diablo	1.03	160.7	0.76	13.3	16.9	5.74
WK137	Sport	1.14	149.0	1.69	12.7	13.3	5.43
WK137	Viper	0.87	149.8	1.67	9.76	na	5.61
HW35	Huntsman	0.69	176.5	0.76	10.8	13.5	nm
HW35	Huntsman (oil)*	0.69	241.4	na	20.1	>18.5	nm
HW35	Bulldog	0.94	184.2	0.99	16.0	14.0	nm
S510	Huntsman	0.69	160.4	0.41	8.9	na	nm
S510	Bulldog	0.94	164.6	1.66	12.7	15.0	nm

Table 1: Measurements on various pellet and rifle combinations.

Velocity is the mean of 10 replicates.

Mass is the mean of 10 replicates and checked against published data

na not available

nm not measured

* single velocity measurement

Pellet	Gelatin alone mm	Gelatin & Liver mm	Gelatin & Heart mm	Gelatin & Lung mm	Gelatin & Shoulder mm
Huntsman (pointed)	135	100	145	155	140
Bulldog (rounded)	140	105	na	135	105

Table 2: Penetration of pellets into gelatine and organ

Air Arm S510 pre-charged rifle, 5 m range

na not available due to complete penetration

Pellet	Range m	Gelatin alone cm	Gelatin & Heart cm	Gelatin & Heart cm	Gelatin & Lung cm	Gelatin & Lung cm	Gelatin & Liver cm	Gelatin & Liver cm
Diablo (rounded)	5	16.9	17.2	14.7	16.5	>18.5	17.0	17.0
Sport (pointed)	5	13.3	13.9	14.2	13.7	14.7	15.0	15.0
Diablo (rounded)	10	16.4	16.5	17.0	>18.5	>18.5	16.5	14.5
Sport (pointed)	10	13.0	13.3	14.0	16.8	14.5	12.5	12.0

Table 3: Effect of range on penetration of organs

Weihrauch WK137

Pellet	Gelatin alone	1 layer chicken skin	2 layers chicken skin	2 layers chicken skin + 2 layers film
Diablo (rounded)	17.3 mm	17.0 mm	17.5 mm	17.0 mm
Sport (pointed)	13.7 mm	13.5 mm	13.7 mm	13.5 mm

Table 4a: Effect of fowl skin on penetration into gelatin

Weihrauch WK137, 5 m range

Pellet	Gelatin alone	Pig skin	Cow skin	Pig skin in gel	Cow skin in gel
Diablo (rounded)	13.7 mm	7.0 mm	12.1 mm	0.0 mm	14.0 mm
Sport (pointed)	11.0 mm	0.0 mm	9.0 mm	0.0 mm	11.5 mm
Viper (pointed)	8.0 mm	0.0 mm	6.5 mm	0.0 mm	7.5 mm

Table 4b: Effect of animal skin on penetration into gelatin

Weihrauch WK137, 5 m range

Pellet	Tissue	Entry mm	Exit mm	Separation mm	Volume mm ³	Cylinder volume mm ³
Sport (pointed)	Lung	3.8	4.9	62.3	118.2	707
Diablo (rounded)	Lung	5.3	6.0	40.0	245.0	882
Sport (pointed)	Liver	2.0	5.0	55.0	84.2	173
Diablo (rounded)	Liver	3.0	4.1	62.0	124.3	438

Table 5: Wound size measured by CT scan in liver and lung

Weihrauch WK137, 5 m range

Material	Range m	Gelatin* cm	Volume mm ³
Plasterboard	5	0	833
Plasterboard	20	0	803
Plasterboard	5	1.5	1019
Plasterboard	20	1.5	1070
Brick	5	0	36
Brick	20	0	71

Table 6: Volume of damage on various materials.

* Thickness of gelatin preceding the plasterboard