Accumulator
Production / Machinery
10 sec, 1 pcs

battery: 5
iron-plate: 2
--
--
--

Active provider chest
Logistics / Machinery
0.5 sec, 1 pcs

advanced-circuit: 1
electronic-circuit: 3
steel-chest: 1
--
--

Advanced circuit
Intermediate product / Intermediate
6 sec, 1 pcs

copper-cable: 4
electronic-circuit: 2
plastic-bar: 2
--
--

Arithmetic combinator
Logistics / Logic
0.5 sec, 1 pcs

copper-cable: 5
electronic-circuit: 5
--
--
--

Artillery shell
Combat / Combat
15 sec, 1 pcs

explosive-cannon-shell: 4
explosives: 8
radar: 1
--
--

Artillery targeting remote
Combat / Item
0.5 sec, 1 pcs

processing-unit: 1
radar: 1
--
--
--

Artillery turret
Combat / Combat
40 sec, 1 pcs

advanced-circuit: 20
concrete: 60
iron-gear-wheel: 40
steel-plate: 60
--

Artillery wagon
Logistics / Machinery
4 sec, 1 pcs

advanced-circuit: 20
engine-unit: 64
iron-gear-wheel: 10
pipe: 16
steel-plate: 40

Assembling machine 1
Production / Machinery
0.5 sec, 1 pcs

electronic-circuit: 3
iron-gear-wheel: 5
iron-plate: 9
--
--

Assembling machine 2
Production / Machinery
0.5 sec, 1 pcs

assembling-machine-1: 1
electronic-circuit: 3
iron-gear-wheel: 5
iron-plate: 9
--

Assembling machine 3
Production / Machinery
0.5 sec, 1 pcs

assembling-machine-2: 2
speed-module: 4
--
--
--

Atomic bomb
Combat / Combat
50 sec, 1 pcs

explosives: 10
processing-unit: 20
uranium-235: 30
--
--

Battery
Intermediate product / Intermediate product
5 sec, 1 pcs

copper-plate: 1
iron-plate: 1
sulfuric-acid: 20
--
--

Battery MK1
Combat / Item
10 sec, 1 pcs

battery: 5
steel-plate: 10
--
--
--

Battery MK2
Combat / Item
10 sec, 1 pcs

battery-mk1: 10
processing-unit: 20
--
--
--

Beacon
Logistics / Machinery
15 sec, 1 pcs

advanced-circuit: 20
copper-cable: 10
electronic-circuit: 20
steel-plate: 10
--

Big electric pole
Logistics / Machinery
0.5 sec, 1 pcs

copper-plate: 5
steel-plate: 5
--
--
--

Blueprint
Production / Tool
0 sec, 0 pcs

--
--
--
--
--

Steam
Intermediate product / Liquid
0 sec, 0 pcs

- --
- --
- --
- --
- --

Steam engine
Production / Machinery
0.5 sec, 1 pcs

- *iron-gear-wheel: 8*
- *iron-plate: 10*
- *pipe: 5*
- --
- --

Steam turbine
Production / Machinery
3 sec, 1 pcs

- *copper-plate: 50*
- *iron-gear-wheel: 50*
- *pipe: 20*
- --
- --

Steel axe
Production / Tool
0.5 sec, 1 pcs

- *iron-stick: 2*
- *steel-plate: 5*
- --
- --
- --

Steel chest
Logistics / Machinery
0.5 sec, 1 pcs

- *steel-plate: 8*
- --
- --
- --
- --

Steel furnace
Production / Machinery
3 sec, 1 pcs

- *steel-plate: 6*
- *stone-brick: 10*
- --
- --
- --

Steel plate
Intermediate product / Intermediate product
35 sec, 1 pcs

- *iron-plate: 5*
- --
- --
- --
- --

Stone
Intermediate product / Resource
0 sec, 0 pcs

- --
- --
- --
- --
- --

Stone brick
Logistics / Intermediate product
3.5 sec, 1 pcs

- *stone: 2*
- --
- --
- --
- --

Stone furnace
Production / Machinery
0.5 sec, 1 pcs

- *stone: 5*
- --
- --
- --
- --

Stone wall
Combat / Combat
0.5 sec, 1 pcs

- *stone-brick: 5*
- --
- --
- --
- --

Storage chest
Logistics / Machinery
0.5 sec, 1 pcs

- *advanced-circuit: 1*
- *electronic-circuit: 3*
- *steel-chest: 1*
- --
- --

Storage tank
Logistics / Machinery
3 sec, 1 pcs

- *iron-plate: 20*
- *steel-plate: 5*
- --
- --
- --

Submachine gun
Combat / Combat
10 sec, 1 pcs

- *copper-plate: 5*
- *iron-gear-wheel: 10*
- *iron-plate: 10*
- --
- --

Substation
Logistics / Machinery
0.5 sec, 1 pcs

- *advanced-circuit: 5*
- *copper-plate: 5*
- *steel-plate: 10*
- --
- --

Sulfur
Intermediate product / Intermediate product
1 sec, 2 pcs

- *petroleum-gas: 30*
- *water: 30*
- --
- --
- --

Sulfuric acid
Intermediate product / Liquid
1 sec, 50 pcs

- *iron-plate: 1*
- *sulfur: 5*
- *water: 100*
- --
- --

Sulfuric acid barrel
Intermediate product / null
0 sec, 0 pcs

- --
- --
- --
- --
- --

Tank
Logistics / Combat
8 sec, 1 pcs

- *advanced-circuit: 10*
- *engine-unit: 32*
- *iron-gear-wheel: 15*
- *steel-plate: 50*
- *--*

Train stop
Logistics / Machinery
0.5 sec, 1 pcs

- *electronic-circuit: 5*
- *iron-plate: 10*
- *steel-plate: 3*
- *--*
- *--*

Transport belt
Logistics / Machinery
0.5 sec, 2 pcs

- *iron-gear-wheel: 1*
- *iron-plate: 1*
- *--*
- *--*
- *--*

Underground belt
Logistics / Machinery
1 sec, 2 pcs

- *iron-plate: 10*
- *transport-belt: 5*
- *--*
- *--*
- *--*

Uranium cannon shell
Combat / Combat
12 sec, 1 pcs

- *cannon-shell: 1*
- *uranium-238: 1*
- *--*
- *--*
- *--*

Uranium fuel cell
Intermediate product / Item
10 sec, 10 pcs

- *iron-plate: 10*
- *uranium-235: 1*
- *uranium-238: 19*
- *--*
- *--*

Uranium ore
Intermediate product / Resource
0 sec, 0 pcs

- *--*
- *--*
- *--*
- *--*
- *--*

Uranium processing
Intermediate product / Process
10 sec, 0 pcs

- *uranium-ore: 10*
- *uranium-235: 0.007*
- *uranium-238: 0.993*
- *--*
- *--*

Uranium rounds magazine
Combat / Combat
10 sec, 1 pcs

- *piercing-rounds-magazine: 1*
- *uranium-238: 1*
- *--*
- *--*
- *--*

Uranium-235
Intermediate product / Resource
0 sec, 0 pcs

- *--*
- *--*
- *--*
- *--*
- *--*

Uranium-238
Intermediate product / Resource
0 sec, 0 pcs

- *--*
- *--*
- *--*
- *--*
- *--*

Used up uranium fuel cell
Intermediate product / Item
200 sec, 1 pcs

- *uranium-fuel-cell: 1*
- *--*
- *--*
- *--*
- *--*

Water
Intermediate product / Liquid
0 sec, 0 pcs

- *--*
- *--*
- *--*
- *--*
- *--*

Water barrel
Intermediate product / null
0 sec, 0 pcs

- *--*
- *--*
- *--*
- *--*
- *--*

Wood
Intermediate product / Intermediate
0.5 sec, 2 pcs

- *raw-wood: 1*
- *--*
- *--*
- *--*
- *--*

Wooden chest
Logistics / Machinery
0.5 sec, 1 pcs

- *wood: 4*
- *--*
- *--*
- *--*

Blueprint book	**Boiler**	**Buffer chest**
Production / Tool	Production / Machinery	Logistics / Machinery
0 sec, 0 pcs	0.5 sec, 1 pcs	0.5 sec, 1 pcs
--	*pipe: 4*	*advanced-circuit: 1*
--	*stone-furnace: 1*	*electronic-circuit: 3*
--	*--*	*steel-chest: 1*
--	*--*	*--*
--	*--*	*--*

Burner inserter	**Burner mining drill**	**Cannon shell**
Logistics / Machinery	Production / Machinery	Combat / Combat
0.5 sec, 1 pcs	4 sec, 1 pcs	8 sec, 1 pcs
iron-gear-wheel: 1	*iron-gear-wheel: 3*	*explosives: 1*
iron-plate: 1	*iron-plate: 3*	*plastic-bar: 2*
--	*stone-furnace: 1*	*steel-plate: 2*
--	*--*	*--*
--	*--*	*--*

Car	**Cargo wagon**	**Centrifuge**
Logistics / Machinery	Logistics / Machinery	Production / Machinery
2 sec, 1 pcs	1 sec, 1 pcs	4 sec, 1 pcs
engine-unit: 8	*iron-gear-wheel: 10*	*advanced-circuit: 100*
iron-plate: 20	*iron-plate: 20*	*concrete: 100*
steel-plate: 5	*steel-plate: 20*	*iron-gear-wheel: 100*
--	*--*	*steel-plate: 50*
--	*--*	*--*

Chemical plant	**Cliff explosives**	**Cluster grenade**
Production / Machinery	Logistics / Item	Combat / Combat
5 sec, 1 pcs	8 sec, 1 pcs	8 sec, 1 pcs
electronic-circuit: 5	*empty-barrel: 1*	*explosives: 5*
iron-gear-wheel: 5	*explosives: 10*	*grenade: 7*
pipe: 5	*grenade: 1*	*steel-plate: 5*
steel-plate: 5	*--*	*--*
--	*--*	*--*

Coal	**Combat shotgun**	**Concrete**
Intermediate product / Resource	Combat / Combat	Logistics / Item
0 sec, 0 pcs	10 sec, 1 pcs	10 sec, 10 pcs
--	*copper-plate: 10*	*iron-ore: 1*
--	*iron-gear-wheel: 5*	*stone-brick: 5*
--	*steel-plate: 15*	*water: 100*
--	*wood: 10*	*--*
--	*--*	*--*

Constant combinator	**Construction robot**	**Copper cable**
Logistics / Logic	Logistics / Item	Intermediate product / Intermediate
0.5 sec, 1 pcs	0.5 sec, 1 pcs	0.5 sec, 2 pcs
copper-cable: 5	*electronic-circuit: 2*	*copper-plate: 1*
electronic-circuit: 2	*flying-robot-frame: 1*	*--*
--	*--*	*--*
--	*--*	*--*
--	*--*	*--*

Copper ore	Copper plate	Crude oil
Intermediate product / Resource	Intermediate product / Intermediate product	Intermediate product / Liquid
0 sec, 0 pcs	3.5 sec, 1 pcs	0 sec, 0 pcs
--	*copper-ore: 1*	--
--	--	--
--	--	--
--	--	--
--	--	--

Crude oil barrel	Decider combinator	Deconstruction planner
Intermediate product / null	Logistics / Logic	category_TODO / Tool
0 sec, 0 pcs	0.5 sec, 1 pcs	0 sec, 0 pcs
--	*copper-cable: 5*	--
--	*electronic-circuit: 5*	--
--	--	--
--	--	--
--	--	--

Defender capsule	Destroyer capsule	Discharge defense
Combat / Combat	Combat / Combat	Combat / Item
8 sec, 1 pcs	15 sec, 1 pcs	10 sec, 1 pcs
electronic-circuit: 2	*distractor-capsule: 4*	*laser-turret: 10*
iron-gear-wheel: 3	*speed-module: 1*	*processing-unit: 5*
piercing-rounds-magazine: 1	--	*steel-plate: 20*
--	--	--
--	--	--

Discharge defense remote	Distractor capsule	Efficiency module
Combat / Combat	Combat / Combat	Production / Item
0.5 sec, 1 pcs	15 sec, 1 pcs	15 sec, 1 pcs
electronic-circuit: 1	*advanced-circuit: 3*	*advanced-circuit: 5*
--	*defender-capsule: 4*	*electronic-circuit: 5*
--	--	--
--	--	--
--	--	--

Efficiency module 2	Efficiency module 3	Electric engine unit
Production / Item	Production / Item	Intermediate product / Intermediate
30 sec, 1 pcs	60 sec, 1 pcs	10 sec, 1 pcs
advanced-circuit: 5	*advanced-circuit: 5*	*electronic-circuit: 2*
effectivity-module: 4	*effectivity-module-2: 5*	*engine-unit: 1*
processing-unit: 5	*processing-unit: 5*	*lubricant: 15*
--	--	--
--	--	--

Electric furnace	Electric mining drill	Electronic circuit
Production / Machinery	Production / Machinery	Intermediate product / Intermediate
5 sec, 1 pcs	2 sec, 1 pcs	0.5 sec, 1 pcs
advanced-circuit: 5	*electronic-circuit: 3*	*copper-cable: 3*
steel-plate: 10	*iron-gear-wheel: 5*	*iron-plate: 1*
stone-brick: 10	*iron-plate: 10*	--
--	--	--
--	--	--

Empty barrel	Energy shield	Energy shield MK2
Intermediate product / null	Combat / Item	Combat / Item
1 sec, 1 pcs	10 sec, 1 pcs	10 sec, 1 pcs
steel-plate: 1	*advanced-circuit: 5*	*energy-shield: 10*
--	*steel-plate: 10*	*processing-unit: 10*
--	*--*	*--*
--	*--*	*--*
--	*--*	*--*

Engine unit	Exoskeleton	Explosive cannon shell
Intermediate product / Intermediate product	Combat / Item	Combat / Combat
10 sec, 1 pcs	10 sec, 1 pcs	8 sec, 1 pcs
iron-gear-wheel: 1	*electric-engine-unit: 30*	*explosives: 2*
pipe: 2	*processing-unit: 10*	*plastic-bar: 2*
steel-plate: 1	*steel-plate: 20*	*steel-plate: 2*
--	*--*	*--*
--	*--*	*--*

Explosive rocket	Explosive uranium cannon shell	Explosives
Combat / Combat	Combat / Combat	Intermediate product / Item
8 sec, 1 pcs	12 sec, 1 pcs	5 sec, 2 pcs
explosives: 2	*explosive-cannon-shell: 1*	*coal: 1*
rocket: 1	*uranium-238: 1*	*sulfur: 1*
--	*--*	*water: 10*
--	*--*	*--*
--	*--*	*--*

Express splitter	Express transport belt	Express underground belt
Logistics / Machinery	Logistics / Machinery	Logistics / Machinery
2 sec, 1 pcs	0.5 sec, 1 pcs	2 sec, 2 pcs
advanced-circuit: 10	*fast-transport-belt: 1*	*fast-underground-belt: 2*
fast-splitter: 1	*iron-gear-wheel: 10*	*iron-gear-wheel: 80*
iron-gear-wheel: 10	*lubricant: 20*	*lubricant: 40*
lubricant: 80	*--*	*--*
--	*--*	*--*

Fast inserter	Fast splitter	Fast transport belt
Logistics / Machinery	Logistics / Machinery	Logistics / Machinery
0.5 sec, 1 pcs	2 sec, 1 pcs	0.5 sec, 1 pcs
electronic-circuit: 2	*electronic-circuit: 10*	*iron-gear-wheel: 5*
inserter: 1	*iron-gear-wheel: 10*	*transport-belt: 1*
iron-plate: 2	*splitter: 1*	*--*
--	*--*	*--*
--	*--*	*--*

Fast underground belt	Filter inserter	Firearm magazine
Logistics / Machinery	Logistics / Machinery	Combat / Combat
2 sec, 2 pcs	0.5 sec, 1 pcs	1 sec, 1 pcs
iron-gear-wheel: 40	*electronic-circuit: 4*	*iron-plate: 4*
underground-belt: 2	*fast-inserter: 1*	*--*
--	*--*	*--*
--	*--*	*--*
--	*--*	*--*

Flamethrower
Combat / Combat
10 sec, 1 pcs

- *iron-gear-wheel: 10*
- *steel-plate: 5*
- *--*
- *--*
- *--*

Flamethrower ammo
Combat / Combat
6 sec, 1 pcs

- *heavy-oil: 50*
- *light-oil: 50*
- *steel-plate: 5*
- *--*
- *--*

Flamethrower turret
Combat / Combat
20 sec, 1 pcs

- *engine-unit: 5*
- *iron-gear-wheel: 15*
- *pipe: 10*
- *steel-plate: 30*
- *--*

Fluid wagon
Logistics / Machinery
1.5 sec, 1 pcs

- *iron-gear-wheel: 10*
- *pipe: 8*
- *steel-plate: 16*
- *storage-tank: 1*
- *--*

Flying robot frame
Intermediate product / Item
20 sec, 1 pcs

- *battery: 2*
- *electric-engine-unit: 1*
- *electronic-circuit: 3*
- *steel-plate: 1*
- *--*

Gate
Combat / Combat
0.5 sec, 1 pcs

- *electronic-circuit: 2*
- *steel-plate: 2*
- *stone-wall: 1*
- *--*
- *--*

Green wire
Logistics / Logic
0.5 sec, 1 pcs

- *copper-cable: 1*
- *electronic-circuit: 1*
- *--*
- *--*
- *--*

Grenade
Combat / Combat
8 sec, 1 pcs

- *coal: 10*
- *iron-plate: 5*
- *--*
- *--*
- *--*

Gun turret
Combat / Combat
8 sec, 1 pcs

- *copper-plate: 10*
- *iron-gear-wheel: 10*
- *iron-plate: 20*
- *--*
- *--*

Hazard concrete
Logistics / Item
0.25 sec, 10 pcs

- *concrete: 10*
- *--*
- *--*
- *--*
- *--*

Heat exchanger
Production / Machinery
3 sec, 1 pcs

- *copper-plate: 100*
- *pipe: 10*
- *steel-plate: 10*
- *--*
- *--*

Heat pipe
Production / Machinery
1 sec, 1 pcs

- *copper-plate: 20*
- *steel-plate: 10*
- *--*
- *--*
- *--*

Heavy armor
Combat / Combat
8 sec, 1 pcs

- *copper-plate: 100*
- *steel-plate: 50*
- *--*
- *--*
- *--*

Heavy oil
Intermediate product / Liquid
0 sec, 0 pcs

- *--*
- *--*
- *--*
- *--*
- *--*

Heavy oil barrel
Intermediate product / null
0 sec, 0 pcs

- *--*
- *--*
- *--*
- *--*
- *--*

High tech science pack
Intermediate product / Science pack
14 sec, 2 pcs

- *battery: 1*
- *copper-cable: 30*
- *processing-unit: 3*
- *speed-module: 1*
- *--*

Inserter
Logistics / Machinery
0.5 sec, 1 pcs

- *electronic-circuit: 1*
- *iron-gear-wheel: 1*
- *iron-plate: 1*
- *--*
- *--*

Iron axe
Logistics / Tool
0.5 sec, 1 pcs

- *iron-plate: 3*
- *iron-stick: 2*
- *--*
- *--*
- *--*

Iron chest	Iron gear wheel	Iron ore
Logistics / Machinery	Intermediate product / Intermediate product	Intermediate product / Resource
0.5 sec, 1 pcs	0.5 sec, 1 pcs	0 sec, 0 pcs
iron-plate: 8	*iron-plate: 2*	*--*
--	*--*	*--*
--	*--*	*--*
--	*--*	*--*
--	*--*	*--*

Iron plate	Iron stick	Kovarex enrichment process
Intermediate product / Intermediate product	Intermediate product / Intermediate product	Intermediate product / Process
3.5 sec, 1 pcs	0.5 sec, 2 pcs	50 sec, 0 pcs
iron-ore: 1	*iron-plate: 1*	*uranium-235: 40*
--	*--*	*uranium-238: 5*
--	*--*	*--*
--	*--*	*--*
--	*--*	*--*

Lab	Lamp	Land mine
Production / Machinery	Logistics / Logic	Combat / Combat
2 sec, 1 pcs	0.5 sec, 1 pcs	5 sec, 4 pcs
electronic-circuit: 10	*electronic-circuit: 1*	*explosives: 2*
iron-gear-wheel: 10	*iron-plate: 1*	*steel-plate: 1*
transport-belt: 4	*iron-stick: 3*	*--*
--	*--*	*--*
--	*--*	*--*

Landfill	Laser turret	Light armor
Logistics / Item	Combat / Combat	Combat / Combat
0.5 sec, 1 pcs	20 sec, 1 pcs	3 sec, 1 pcs
stone: 20	*battery: 12*	*iron-plate: 40*
--	*electronic-circuit: 20*	*--*
--	*steel-plate: 20*	*--*
--	*--*	*--*
--	*--*	*--*

Light oil	Light oil barrel	Locomotive
Intermediate product / Liquid	Intermediate product / null	Logistics / Machinery
0 sec, 0 pcs	0 sec, 0 pcs	4 sec, 1 pcs
--	*--*	*electronic-circuit: 10*
--	*--*	*engine-unit: 20*
--	*--*	*steel-plate: 30*
--	*--*	*--*
--	*--*	*--*

Logistic robot	Long handed inserter	Low density structure
Logistics / Item	Logistics / Machinery	Intermediate product / Intermediate
0.5 sec, 1 pcs	0.5 sec, 1 pcs	30 sec, 1 pcs
advanced-circuit: 2	*inserter: 1*	*copper-plate: 5*
flying-robot-frame: 1	*iron-gear-wheel: 1*	*plastic-bar: 5*
--	*iron-plate: 1*	*steel-plate: 10*
--	*--*	*--*
--	*--*	*--*

Lubricant
Intermediate product / Liquid
1 sec, 10 pcs

- *heavy-oil: 10*
- --
- --
- --
- --

Lubricant barrel
Intermediate product / null
0 sec, 0 pcs

- --
- --
- --
- --
- --

Medium electric pole
Logistics / Machinery
0.5 sec, 1 pcs

- *copper-plate: 2*
- *steel-plate: 2*
- --
- --
- --

Military science pack
Intermediate product / Science pack
10 sec, 2 pcs

- *grenade: 1*
- *gun-turret: 1*
- *piercing-rounds-magazine: 1*
- --
- --

Modular armor
Combat / Combat
15 sec, 1 pcs

- *advanced-circuit: 30*
- *steel-plate: 50*
- --
- --
- --

Nightvision
Combat / Item
10 sec, 1 pcs

- *advanced-circuit: 5*
- *steel-plate: 10*
- --
- --
- --

Nuclear fuel
Intermediate product / Item
60 sec, 1 pcs

- *rocket-fuel: 1*
- *uranium-235: 1*
- --
- --
- --

Nuclear fuel reprocessing
Intermediate product / Process
50 sec, 0 pcs

- *used-up-uranium-fuel-cell: 5*
- *uranium-238: 3*
- --
- --
- --

Nuclear reactor
Production / Machinery
8 sec, 1 pcs

- *advanced-circuit: 500*
- *concrete: 500*
- *copper-plate: 500*
- *steel-plate: 500*
- --

Offshore pump
Production / Machinery
0.5 sec, 1 pcs

- *electronic-circuit: 2*
- *iron-gear-wheel: 1*
- *pipe: 1*
- --
- --

Oil refinery
Production / Machinery
8 sec, 1 pcs

- *electronic-circuit: 10*
- *iron-gear-wheel: 10*
- *pipe: 10*
- *steel-plate: 15*
- *stone-brick: 10*

Passive provider chest
Logistics / Machinery
0.5 sec, 1 pcs

- *advanced-circuit: 1*
- *electronic-circuit: 3*
- *steel-chest: 1*
- --
- --

Personal laser defense
Combat / Item
10 sec, 1 pcs

- *laser-turret: 5*
- *processing-unit: 1*
- *steel-plate: 5*
- --
- --

Personal roboport
Combat / Item
10 sec, 1 pcs

- *advanced-circuit: 10*
- *battery: 45*
- *iron-gear-wheel: 40*
- *steel-plate: 20*
- --

Personal roboport MK2
Combat / Item
20 sec, 1 pcs

- *personal-roboport: 5*
- *processing-unit: 100*
- --
- --
- --

Petroleum gas
Intermediate product / Liquid
0 sec, 0 pcs

- --
- --
- --
- --
- --

Petroleum gas barrel
Intermediate product / null
0 sec, 0 pcs

- --
- --
- --
- --
- --

Piercing rounds magazine
Combat / Combat
3 sec, 1 pcs

- *copper-plate: 5*
- *firearm-magazine: 1*
- *steel-plate: 1*
- --
- --

Piercing shotgun shells	Pipe	Pipe to ground
Combat / Combat	Logistics / Machinery	Logistics / Machinery
8 sec, 1 pcs	0.5 sec, 1 pcs	0.5 sec, 2 pcs
copper-plate: 5 *shotgun-shells: 2* *steel-plate: 2* *--* *--*	*iron-plate: 1* *--* *--* *--* *--*	*iron-plate: 5* *pipe: 10* *--* *--* *--*
Pistol	**Plastic bar**	**Poison capsule**
Combat / Combat	Intermediate product / Intermediate product	Combat / Combat
5 sec, 1 pcs	1 sec, 2 pcs	8 sec, 1 pcs
copper-plate: 5 *iron-plate: 5* *--* *--* *--*	*coal: 1* *petroleum-gas: 20* *--* *--* *--*	*coal: 10* *electronic-circuit: 3* *steel-plate: 3* *--* *--*
Portable fusion reactor	**Portable solar panel**	**Power armor**
Combat / Item	Combat / Item	Combat / Combat
10 sec, 1 pcs	10 sec, 1 pcs	20 sec, 1 pcs
processing-unit: 250 *--* *--* *--* *--*	*advanced-circuit: 1* *solar-panel: 5* *steel-plate: 5* *--* *--*	*electric-engine-unit: 20* *processing-unit: 40* *steel-plate: 40* *--* *--*
Power armor MK2	**Power switch**	**Processing unit**
Combat / Combat	Logistics / Machinery	Intermediate product / Intermediate
25 sec, 1 pcs	2 sec, 1 pcs	10 sec, 1 pcs
effectivity-module-3: 5 *processing-unit: 40* *speed-module-3: 5* *steel-plate: 40* *--*	*copper-cable: 5* *electronic-circuit: 2* *iron-plate: 5* *--* *--*	*advanced-circuit: 2* *electronic-circuit: 20* *sulfuric-acid: 5* *--* *--*
Production science pack	**Productivity module**	**Productivity module 2**
Intermediate product / Science pack	Production / Item	Production / Item
14 sec, 2 pcs	15 sec, 1 pcs	30 sec, 1 pcs
electric-engine-unit: 1 *electric-furnace: 1* *--* *--* *--*	*advanced-circuit: 5* *electronic-circuit: 5* *--* *--* *--*	*advanced-circuit: 5* *processing-unit: 5* *productivity-module: 4* *--* *--*
Productivity module 3	**Programmable speaker**	**Pump**
Production / Item	Logistics / Logic	Logistics / Machinery
60 sec, 1 pcs	2 sec, 1 pcs	2 sec, 1 pcs
advanced-circuit: 5 *processing-unit: 5* *productivity-module-2: 5* *--* *--*	*copper-cable: 5* *electronic-circuit: 4* *iron-plate: 5* *--* *--*	*engine-unit: 1* *pipe: 1* *steel-plate: 1* *--* *--*

Pumpjack	**Radar**	**Rail**
Production / Machinery	Combat / Machinery	Logistics / Item
5 sec, 1 pcs	0.5 sec, 1 pcs	0.5 sec, 2 pcs
electronic-circuit: 5	*electronic-circuit: 5*	*iron-stick: 1*
iron-gear-wheel: 10	*iron-gear-wheel: 5*	*steel-plate: 1*
pipe: 10	*iron-plate: 10*	*stone: 1*
steel-plate: 5	*--*	*--*
--	*--*	*--*

Rail chain signal	**Rail signal**	**Raw fish**
Logistics / Machinery	Logistics / Machinery	Intermediate product / Item
0.5 sec, 1 pcs	0.5 sec, 1 pcs	0 sec, 0 pcs
electronic-circuit: 1	*electronic-circuit: 1*	*--*
iron-plate: 5	*iron-plate: 5*	*--*
--	*--*	*--*
--	*--*	*--*
--	*--*	*--*

Raw wood	**Red wire**	**Refined concrete**
Intermediate product / Resource	Logistics / Logic	Logistics / Item
0 sec, 0 pcs	0.5 sec, 1 pcs	15 sec, 10 pcs
--	*copper-cable: 1*	*concrete: 20*
--	*electronic-circuit: 1*	*iron-stick: 8*
--	*--*	*steel-plate: 1*
--	*--*	*water: 100*
--	*--*	*--*

Refined hazard concrete	**Repair pack**	**Requester chest**
Logistics / Item	Production / Tool	Logistics / Machinery
0.25 sec, 10 pcs	0.5 sec, 1 pcs	0.5 sec, 1 pcs
refined-concrete: 10	*electronic-circuit: 2*	*advanced-circuit: 1*
--	*iron-gear-wheel: 2*	*electronic-circuit: 3*
--	*--*	*steel-chest: 1*
--	*--*	*--*
--	*--*	*--*

Roboport	**Rocket**	**Rocket control unit**
Logistics / Machinery	Combat / Combat	Intermediate product / Intermediate
5 sec, 1 pcs	8 sec, 1 pcs	30 sec, 1 pcs
advanced-circuit: 45	*electronic-circuit: 1*	*processing-unit: 1*
iron-gear-wheel: 45	*explosives: 1*	*speed-module: 1*
steel-plate: 45	*iron-plate: 2*	*--*
--	*--*	*--*
--	*--*	*--*

Rocket fuel	**Rocket launcher**	**Rocket part**
Intermediate product / Intermediate product	Combat / Combat	Intermediate product / Item
30 sec, 1 pcs	10 sec, 1 pcs	3 sec, 1 pcs
solid-fuel: 10	*electronic-circuit: 5*	*low-density-structure: 10*
--	*iron-gear-wheel: 5*	*rocket-control-unit: 10*
--	*iron-plate: 5*	*rocket-fuel: 10*
--	*--*	*--*
--	*--*	*--*

Rocket silo	Satellite	Science pack 1
Combat / Machinery	Intermediate product / Item	Intermediate product / Science pack
30 sec, 1 pcs	5 sec, 1 pcs	5 sec, 1 pcs
concrete: 1000	*accumulator: 100*	*copper-plate: 1*
electric-engine-unit: 200	*low-density-structure: 100*	*iron-gear-wheel: 1*
pipe: 100	*processing-unit: 100*	*--*
processing-unit: 200	*radar: 5*	*--*
steel-plate: 1000	*rocket-fuel: 50*	*--*
	solar-panel: 100	

Science pack 2	Science pack 3	Shotgun
Intermediate product / Science pack	Intermediate product / Science pack	Combat / Combat
6 sec, 1 pcs	12 sec, 1 pcs	10 sec, 1 pcs
inserter: 1	*advanced-circuit: 1*	*copper-plate: 10*
transport-belt: 1	*electric-mining-drill: 1*	*iron-gear-wheel: 5*
--	*engine-unit: 1*	*iron-plate: 15*
--	*--*	*wood: 5*
--	*--*	*--*

Shotgun shells	Slowdown capsule	Small electric pole
Combat / Combat	Combat / Combat	Logistics / Machinery
3 sec, 1 pcs	8 sec, 1 pcs	0.5 sec, 2 pcs
copper-plate: 2	*coal: 5*	*copper-cable: 2*
iron-plate: 2	*electronic-circuit: 2*	*wood: 2*
--	*steel-plate: 2*	*--*
--	*--*	*--*
--	*--*	*--*

Solar panel	Solid fuel	Space science pack
Production / Machinery	Intermediate product / Resource	Intermediate product / Science pack
10 sec, 1 pcs	0 sec, 0 pcs	300 sec, 1000 pcs
copper-plate: 5	*--*	*rocket-part: 100*
electronic-circuit: 15	*--*	*satellite: 1*
steel-plate: 5	*--*	*--*
--	*--*	*--*
--	*--*	*--*

Speed module	Speed module 2	Speed module 3
Production / Item	Production / Item	Production / Item
15 sec, 1 pcs	30 sec, 1 pcs	60 sec, 1 pcs
advanced-circuit: 5	*advanced-circuit: 5*	*advanced-circuit: 5*
electronic-circuit: 5	*processing-unit: 5*	*processing-unit: 5*
--	*speed-module: 4*	*speed-module-2: 5*
--	*--*	*--*
--	*--*	*--*

Splitter	Stack filter inserter	Stack inserter
Logistics / Machinery	Logistics / Machinery	Logistics / Machinery
1 sec, 1 pcs	0.5 sec, 1 pcs	0.5 sec, 1 pcs
electronic-circuit: 5	*electronic-circuit: 5*	*advanced-circuit: 1*
iron-plate: 5	*stack-inserter: 1*	*electronic-circuit: 15*
transport-belt: 4	*--*	*fast-inserter: 1*
--	*--*	*iron-gear-wheel: 15*
--	*--*	*--*