accumulator 2 • 5
advanced-circuit 2 \to 4 \tilde{\infty} 2 \tilde{\to}
advanced-oil-processing 50 100 1
arithmetic- combinator 5
artillery-shell / 8 / 4 1 1
artillery- targeting- remote 1 1 1
artillery-turret 60 40 40 40 60 60 60
artillery-wagon 3 40 1 10 2 20 1 64 1 16
assembling-machine-1 9 • 5 • 3 • 3
assembling-machine-2 2 / 5 🖨 3 🔁 1
assembling- machine-3 2 2 4
atomic-bomb 10 30 D
automation- science-pack 1 • 1
basic-oil- processing 100 6
battery 1 🍑 1 🍑 20 📣
battery- equipment 10 / 5 6
battery-mk2- equipment
beacon 10 / 10 20 1 20 1
belt-immunity- equipment 10 / 5 🔁
big-electric-pole 5 🍑 5 🗸
boiler 4 8 1 4
burner-inserter 1 1 1
burner-mining-drill 3 • 1
cannon-shell 2 / 2 \ 1

car		20 🔷	5 🥒	8 🎉	
cargo-wagon		20 🔷	20 🥒	10 😂	
centrifuge		50 🥒	100 🖨	100 🔤	100
chemical-plant		5 🥒	5 😩	5 🚭	5 🍣
chemical- science-pack	3	1 🐇	3 🚭	2 🎉	
cliff- explosives		10 🎤	1 9	1 🏶	
cluster-grenade	*	5 🥒	5 🔎	7 🦥	
coal- liquefaction	8	10	25 🍐	50 🐃	
combat- shotgun		10 🧼	10 🍑	15 🥒	5 😩
concrete	4	1 35	5	100 🍐	
constant- combinator		5 🔊	2 🔁		
construction- robot	Q	2 📴	1 👺		
copper-cable		1 🍑			
copper-plate		1 💥			
decider- combinator		5	5 🔁		
defender- capsule		3 😩	3 🔁	3 🥟	
destroyer- capsule		1	4 🤏		
discharge- defense- equipment	L. W.	20 🥒	5 ë	10	
discharge- defense-remote	U	1 🚭			
distractor- capsule		3 🚭	4 🙎		
effectivity- module		5 🔁	5 🔁		
effectivity- module-2		5 🔁	5 🔁	4	
effectivity- module-3		5 🔁	5 🔁	5 🌌	
electric- engine-unit		2 🔁	1 🎉	15 🍐	
electric-					

furnace		10 🥒	5 🔁	10	
electric- mining-drill		10 🔷	5 😩	3 🚭	
electronic- circuit	ř.	1 🄷	3		4
empty-barrel		1 //			
empty-crude- oil-barrel		1 🖁			
empty-heavy- oil-barrel		1 🛢			
empty-light- oil-barrel		1 🛢			
empty- lubricant- barrel		1 🛢			
empty- petroleum-gas- barrel		1 8			
empty- sulfuric-acid- barrel		1 🛢			
empty-water- barrel		1 🛢			
energy-shield- equipment		10 🥢	5 🔁		
energy-shield- mk2- equipment		5 🔁	5 💸	10 🗼	
engine-unit		1 //	1 😩	2 🍣	
exoskeleton- equipment	5	20 🥒	10 🔁	30 🧼	
explosive- cannon-shell		2 🥒	2 💸	2 🔎	
explosive- rocket		2 🔎	1 🗼		
explosive- uranium- cannon-shell		1	1		
explosives		1 📆	1 🚜	10 🍐	
express-splitter	NO.	10 🕮	10 🔤	1	
express- transport-belt		10 🕮	1 🙈	20 🍐	
express- underground- belt		80 🕮	2	40 🍐	
fast-inserter		2 🧇	2 🚭	1 🎏	
fast-splitter					

		10 谷	10 🚭	1	
fast-transport- belt		5 😩	1 🗟		I
fast- underground- belt		40 😂	2 🚇		
fill-crude-oil- barrel		1 9	50 🍐		
fill-heavy-oil- barrel		1 9	50 🍐		
fill-light-oil- barrel		1 8	50 🍐		
fill-lubricant- barrel		1 3	50 🍐		
fill-petroleum- gas-barrel		1 3	50 🕽		
fill-sulfuric- acid-barrel		1 3	50 🙈		
fill-water- barrel		1 3	50 🍐		
filter-inserter		4 ë	1 💸		
firearm- magazine		4 🧇		•	
flamethrower		5 🥒	10 😂		
flamethrower- ammo		5 🥒	100		
flamethrower- turret		30 🥒	15 😩	5 🎉	10 🌡
fluid-wagon		16 🥒	10 😂	1 9	8 🌡
flying-robot- frame		1 🥒	2 🦸	3 🔁	1 📦
fusion-reactor- equipment	6	200 🔁	50 🍣		
gate		2 🥒	2 🚭	1	
green-wire		1 0	1 🔁		•
grenade		10	5 🔷		
gun-turret		20 🔷	10 🍑	10 😂	
hazard- concrete		10			
heat-exchanger		100 🍑	10 🥒	10 🌡	
heat-pipe					•

		20 🍑	10 🥢	
heavy-armor		100 🍑	50 🥒	
heavy-oil- cracking	101	30 🌡	40 🍐	
inserter		1 🄷	1 🕮	1 ====
iron-chest		8 🔷		
iron-gear- wheel		2 🧇		
iron-plate	*	1 35		
iron-stick		1 🍑		1
kovarex- enrichment- process		40 🗪	5 🗪	
lab		10 谷	10 🚭	4 🚔
land-mine		1 🥒	2 🔎	
landfill		20 🗱		
laser-turret		20 🥒	12 🏈	20 🔤
light-armor		40 🔷		-
light-oil- cracking	**	30 🍐	30 🍐	
locomotive		30 🥒	10 🚭	20 🧼
logistic-chest- active-provider		3 🔁	1 🔁	1
logistic-chest- buffer		3 🔁	1 🔁	1
logistic-chest- passive- provider		3 🚭	1 🚭	1
logistic-chest- requester		3 🚭	1 🔁	1
logistic-chest- storage		3 🚭	1 🔁	1
logistic-robot		2 🔁	1 🖁	
logistic- science-pack	&	1 🚔	1 🍇	
long-handed- inserter		1 🍑	1 🕸	1 💸

low-density- structure		20 🍑	2 🥒	5 🔷			
lubricant	•	10 🍐					
medium- electric-pole	Î	2 🍑	2 🥒	4 \			
military- science-pack		1 🥟	1 🗞	2			
modular-armor		50 🥒	30 🚭				
night-vision- equipment		10 🥢	5 🔁				
nuclear-fuel		1 🚀	1 🗪				
nuclear-fuel- reprocessing	S	5 🛢		•			
nuclear-reactor		500 🍑	500 🧳	500 🔤	500		
offshore-pump		1 😩	2 🔁	1 8			7
oil-refinery		15 🥢	10 🕮	10 🚟	10 🌡	10	
personal-laser- defense- equipment		20 🚟	5 🝣	5			
personal- roboport- equipment		20 🥒	45 🦸	40 😂	10 🔁		
personal- roboport-mk2- equipment		100 🚟	20 💸	5			
piercing- rounds- magazine		5 🍑	1 🥒	1 🥒			
piercing- shotgun-shell		5 🍑	2 🥒	2			
pipe		1 🄷					
pipe-to-ground		5 🔷	10 🌡				
pistol		5 🔷	5 🧼				
plastic-bar	\	1 📆	20 😘				
poison-capsule		10 🎎	3 🥒	3 🔁			
power-armor		40 🥒	40 🚟	20 📦			1
power-armor- mk2		60 🔁	40 📦	30 🍣	25 🌌	25 🌌	
power-switch		5 🔷	5 🔊	2 🔁			

processing-unit	F	20 🔁	2 🚭	5 🦀			
production- science-pack		30	1	1			
productivity- module		5	5 📴				
productivity- module-2		5 🚭	5 🔁	4			
productivity- module-3		5	5 🔁	5			
programmable- speaker		3 🔷	5	4	4 🚭		
pump		1 🥢	1 🎉	1 🍣			
pumpjack		5 🥒	10 🕮	5 🚭	10 🌡		
radar		10 🔷	5 🖨	5			
rail		1 🗱	1 🥒	1 \			
rail-chain- signal		5 🔷	1 🔁				
rail-signal		5 🔷	1 🔁				
red-wire		1 0	1 🔁				
refined- concrete		1 🥒	8 \	20	100 🍐		
refined-hazard- concrete		10					
repair-pack		2 😂	2 🔁				
roboport		45 🥒	45 🕮	45 🚟			
rocket		2 🔷	1 🔎	1			
rocket-control- unit		1 🛂	1				
rocket-fuel		10	10 🍐				
rocket- launcher		5 🔷	5 😩	5 🔁			
rocket-part		10	10 🍣	10 🧬			•
rocket-silo		1000 🥒	200 🔁	200 🧼	100	1000	
satellite		100 🔁	100 💸	50 🧬	100	100	5
shotgun							

		5 🧼	15 🔷	10 🍑	5 😩				
shotgun-shell		2 🧇	2 🧼			I			
slowdown- capsule		5	2 🥒	2 🔁					
small-electric- pole		1 🧼	2		ı				
small-lamp		1 🔷	3 🔊	1 🚭					
solar-panel		5 🍑	5 🥒	15 🚭					
solar-panel- equipment		5 🥒	2 🔁	1					
solid-fuel- from-heavy-oil		20 🍐							
solid-fuel- from-light-oil		10 🍐							
solid-fuel- from- petroleum-gas		20 🗫							
speed-module		5	5 🔁						
speed-module-		5	5 🚭	4 🌌					
speed-module-		5	5 ë	5					
spidertron	M	1	16 🍑	150 🍣	2	4 🊜	2	4	2
spidertron- remote		1	1						
splitter	ioto	5 🔷	5 🔁	4 🎡					
stack-filter- inserter	17	5 🔁	1 🔏						
stack-inserter		15 🥋	15 🚭	1	1 💐				
steam-engine		10 🔷	8	5 🍣					
steam-turbine	0	50 🍑	50 😂	20 🌡					
steel-chest		8 🥒			•				
steel-furnace		6 🥒	10						
steel-plate		5 🔷							
stone-brick		2 📸							
stone-furnace									

		5 📸			
stone-wall		5			
storage-tank		20 🔷	5 🥒		
submachine- gun		10 🔷	5 🧼	10 🕮	
substation		5 🍑	10 🥢	5 🚭	
sulfur	B.	30 🌡	30 😘		•
sulfuric-acid		1 🄷	5 🍇	100 🍐	
tank		50 🥒	15 😩	10 🚟	32 🧼
train-stop		6 🔷	3 🥢	6	5 🚭
transport-belt		1 🄷	1 🕮		•
underground- belt		10 🔷	5 🙈	1	
uranium- cannon-shell		1 🍛	1	1	
uranium-fuel- cell		10 🔷	1 🍛	19 🧼	
uranium- processing		10 🎊		•	1
uranium- rounds- magazine		1 🍛	1		-
utility-science- pack		2 🔁	1 🕞	3 💸	
wooden-chest		2 🧼			-