

Mechanical treatment of different categories of casting scrap with the appropriate equipment for the preliminary processing regarding recycling

Category (German Foundry Association)	Cast iron scrap			
	1a	2a	3a	4a
Number of scrap category	1a	2a	3a	4a
Number of scrap category (ISRI scrap specification)	265	252-263; 266		223; 267; 270; 271
Nomenclature	Ingot mold scrap	Cast iron scrap of machines	Cast iron scrap of undefined parts	Cast iron chips
Exaple of materials				
Description / Requirement	Broken ingot molds; manageable size	Cast iron scrap of machine tools, other machines (including agricultural) machines , particularly thick-walled pieces of machines, free of cast steel scrap, scrap of firing plants, wrought iron and enamel, manageable size (> 10 mm thickness)	Cast iron scrap of undefined parts, especially clean, thick-walled tube cast iron scrap, thin-walled pieces of agricultural machines, parts of sewers,unused parts of firing plants, free of cast steel scrap, scrap of firing plants, wrought iron and enamel, manageable size	Cast iron chips
Preliminary processing	-	-	-	Milling, grading, sorting
Main processing step	Crushing	Crushing	Crushing	Briquetting
Exemplary machines for the central processing step				
Machine for the central	Cast iron crusher	Cast iron crusher	Cast iron crusher	Briquetting press
Subsequent treatment process	Grading	Grading / Sorting	Grading / Sorting	-
Representation of the (intermediate) product *)				
(Intermediate) product	Loose cast iron pieces	Loose cast iron pieces	Loose cast iron pieces	Briquette

*) Selection of machine types by ATM recycling system on the basis of experiences; additional or alternative processing techniques can

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Category (German Foundry Association)	Post-consumer scrap (Old scrap)		
	I/1	III/8	IV/9
Number of scrap category			
Number of scrap category (ISRI scrap specification)	233	(4); (5); (6); (9)	(27); (28A, B and C)
Nomenclature	Post-consumer scrap (Old scrap)	Railway track scrap	Rails
Exaple of materials			
Description / Requirement	Post-consumer scrap (> 6 mm), length of the diagonals = max. 40 cm x 150 cm	Railway track scrap like hook plates, screws, nails, rib plates, clamping plates, chain scrap, parts of points and railroad sleepers, parts of mine openings	Rails
Preliminary processing	-	-	-
Main processing step	Cutting	Crushing	Crushing
Exemplary machines for the central processing step			
Machine for the central	Scrap shear	Rail crusher	Rail crusher
Subsequent treatment process	Grading	-	-
Representation of the (intermediate) product *)			
(Intermediate) product	Loose scrap	Loose rail pieces	Loose rail pieces

*) Selection of machine types by ATMbe used

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Category (German Foundry Association)	Cast steel scrap			
	Pre-consumer scrap (New scrap)			
Number of scrap category	I/1.1	II/1	II/2	II/3
Number of scrap category (ISRI scrap specification)	219; 220; 221; 222			233; (11); (11A)
Nomenclature	Steel chips	Pre-consumer scrap (New scrap)	Hammer mill wastes (e.g. dies, flash)	Cutting parts of thick plate
Exaple of materials				
Description / Requirement	Steel chips	Pre-consumer scrap (> 3 mm) as not included under II/2-7	Hammer mill wastes (e.g. dies, flash), heavy pinch-off areas < 30 cm, flanges > 5 mm, billet ends	Cutting parts of thick plate > 5 mm, cutting parts of profiles
Preliminary processing	Milling, grading, sorting	-	-	-
Main processing step	Briquetting	Cutting		Cutting
Exemplary machines for the central processing step				
Machine for the central	Briquetting press	Scrap shear	-	Scrap shear
Subsequent treatment process	-	Grading	-	Grading
Representation of the (intermediate) product *)				
(Intermediate) product	Briquette	Loose scrap	Loose scrap	Loose scrap

*) Selection of machine types by ATM

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Number of scrap category	II/4	II/5	II/6	II/7
Number of scrap category (ISRI scrap specification)		208; 209; 213; 214; 216-218; 235		
Nomenclature	Scrap of die cutting	Sheet packages of deep drawing	Sheet packages of deep drawing	Small scrap
Exaple of materials				
Description / Requirement	Scrap of die cutting, light pinch-off areas, scrap of steel strip trimming	Sheet packages (40 cm x 40 cm x 60 cm) of deep drawing	Sheet packages (30 cm x 30 cm x 30 cm) of deep drawing	Small scrap like bolts, screws, nuts, etc.
Preliminary processing	-	-	-	-
Main processing step	Baling	Baling	Baling	-
Exemplary machines for the central processing step				
Machine for the central	Baling press	Baling press	Baling press	-
Subsequent treatment process	-	-	-	-
Representation of the (intermediate) product *)				
(Intermediate) product	Package	Package	Package	Loose scrap

*) Selection of machine types by ATM