

	FACTORY STANDARD	ZN-CMCP-Z-2/2021	Strona
	UNPROCESSED STEEL SCRAP	Replaces: ZN-HZ-Z-3/2003	

This standard provides for technical requirements for classes of un-processed scrap used for manual or mechanical processing in CMC Poland Sp. Z o.o.

This standard **ZN-CMCP-Z-2/2021** replaces the standard **ZN-HZ-Z-3/2003** and has been in force since 01.01.2021

Elaborated by
Standarization Committee
of CMC Poland Sp. Z o.o.

Przewodniczący Komisji

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Confirmed:

**Prezes Zarządu
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1. Introduction

1.1. Subject of the standard

The subject of the standard are technical requirements for particular, defined categories and classes of unprocessed scrap used for manual and mechanical processing.

1.2. Scope of application

This standard shall be applied in ordering and purchasing and deliveries and receipts of unprocessed scrap used as charge material for manual and mechanical processing in CMC Poland sp. z o.o.

1.3. Terms and definitions

1.3.1. Steel scrap – post-production and post-amortization steel waste, which may be a subject to technical processing, which rely on separating only this part which fulfill the requirements of proper steel classes, described in technical specification.

Technical processing means processing of waste by manual or automatic sorting, shredding, separating, cutting, prepackaging, baling in order to achieve proper bulk density or single piece dimension.

1.3.2. Unprocessed steel scrap – scrap that before using as the charge for electric furnace, demands mechanical or manual processing in order to achieve proper size, shape and bulk density and removing metallic and non-metallic contamination to limits allowed by Factory Standard.

1.3.3. Unprocessed steel scrap to manual or mechanical processing excluding the shredding process – scrap that due to its dimensions and shape does not qualify to direct shredding process and it needs to be processed by thermal cutting or mechanical processing in the process of cutting and squashing.

1.3.4. Unprocessed steel scrap for shredding process – unprocessed steel scrap, which before using as the charge to electric furnace demands mechanical processing on shredder to achieve proper parameters and removing metallic and non-metallic contamination to limits allowed by Factory Standard.

1.4. Boundary parameters

1.4.1. Parameters for bulk unprocessed scrap: scrap with dimensions not exceeding 2000mm x 2000mm x 6000mm; single element thickness up to 300mm; in the case of scrap in the form of steel pipes, structural sections, closed section, etc.: length - 6000mm, wall thickness – 8mm, diameter or outline – 400mm;

1.4.2. Parameters for scrap in the form of package: density – 0,6Mg/m³, maximum dimensions – 2000mm x 2000mm x 3000mm, if the specification of individual classes does not allow different parameters;

2. Division and denotation

2.1. Scrap metal categories

Division into scrap metal categories was based on the proper scrap processing technologies that are used.

2.2. Steel scrap classes.

Classes of scrap were described, depending on physical form, required scrap density form, bulk density, acceptable contamination related with scrap.

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2.3. Categories and unprocessed steel scrap classes are contained in table 1, divided adequately on scrap for shredder, manual and mechanical processing.

3. Requirements

3.1. All scrap classes must be free from hazardous materials.

3.1.1. Hazardous materials are all substances or articles which may pose a risk to health, safety, property or environment and hazardous subjects mentioned in regulation of the Ministry of Entrepreneurship and Technology on occupational health and safety while eliminating dangerous items, including explosives from scrap metals. Due to their properties (chemicals, physical or biological), these materials have the following features or forms:

- a) Inflammable or explosive materials, ammunition and shells (whole or in parts or ammunition cripples),
- b) tanks under pressure, closed or not enough opened whatsoever origin,
- c) Radioactive materials in sealed containers, even then, when there is no considerable external radioactive activity due to protective sheath or placing of the delivered consignment of the scrap metal,
- d) emitting hazardous radiation, especially materials which radiation exceeds the level of CMC Poland Sp. z o.o. natural radiation background,
- e) materials containing or emitting substances which may be a threat to natural environment or steel production technology,
- f) materials which have acid, erosive, contaminated or carcinogenic effect.

3.1.2. The opening of the tanks is treated as insufficient if they do not have two holes of minimal dimension 40*40 mm or diameter of 40mm. Materials in the form of: fire extinguishers, boilers, compressed air tanks, hydraulics tanks, coal-fired furnaces are exempt of the requirement of opening, provided that technological holes are unobstructed.

3.2. Additionally, all steel scrap classes should be free from:

- wastes in the shape of complete or incomplete electrical and electronic equipment or parts which come from wasted equipment (scrap originated from dismantling of electric and electronic equipment is allowed for further recycling or recovery by authorized entities);
- all types of hazardous waste defined in accordance with the provisions of the Waste Act, including, such as:
 - ✓ waste in the shape of packages related with hazardous substances having indications (pictograms), such as barrels, containers, tins which indicate that they have contact with hazardous materials/substances) or not having pictograms however indicating on having contact with hazardous materials/substances,
 - ✓ packages under pressure,
 - ✓ oil filters,
 - ✓ power cells, condensers, batteries
- steel, post-amortization and post-production packaging waste (not involve HZ-ENOP class)
- food packaging, such as: tins, open works and other tinplated materials;
- consistent elements from cast steel and cast iron, excepted elements allowed to manual or mechanical processing, as a result of subsuming them in individual class specification of unprocessed steel scrap.

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- Overly tangled elements, in the shape of bars, wires, including barbed wire, wrapping wire, welding rods, cables, fence wire netting.

3.3. Pollution

3.3.1. Scrap metal of each class cannot contain non-metallic pollution like soil, sand, concrete, insulating material, iron oxide in every form apart from limited amount of surface rust originating in consequences of storing outdoors or preparing in normal weather conditions.

3.3.2. Scrap metal, of every class, must be deprived of flammable non-metallic materials like Sulphur, oil, grease, chemical and organic substances.

3.3.3. Scrap metal of each class cannot contain non-metallic materials like rubber, synthetics, fabrics, wood, glass, apart from scrap metal class which, before used as the electric furnace batch, need a mechanical processing on shredder in order to obtain proper parameters and removing the metallic and non-metallic pollution to levels acceptable by Factory Standard.

3.3.4. Steel scrap of each class must be free from waste or by-products originated from steel smelting, from heating, polishing, cutting, welding, cutting by burner or burning off, such as mill scale, slag, filter dust, polish dust, metallic waste which originated from thermic waste processing.

4. Terms and conditions of receipt

4.1. Detailed terms of receipt for unprocessed steel scrap are regulated by trade contracts and order conditions.

4.2. Material or waste revealed in delivery, which are mentioned in point 3, constitute the basis for refusal to accept all or part of a delivery that does not meet the requirements of this standard or re-shipment in whole or in part and to calculate liquidated damages and charging with costs .

**NORMA ZAKŁADOWA_ZŁOM NIEWSADOWY FACTORY NORM_UNRPROCESSED STEEL SCRAP
TABLE 1_CLASS LIST_SCRAP FOR SHREDDER PROCESSING**

Scrap Class	Characteristic	Dimensions Max. [m]	Thickness [mm]	Maximum level of admissible contamination related to scrap [%]	Remarks
HZ-EN10	<p>Bulk scrap, scrap in the form of sheets, open work, profile flat bars and other elements of light structures; it may contains car rims and suspension elements; It is allowed to accept waste originating from the dismantling of end-of life vehicles in the form of body parts and scrap formed after the dismantling of electric and electronic equipment waste transferred for further recycling or recovery by authorized entities with non-metallic elements removed.</p> <p>It is not allowed to accept:</p> <ul style="list-style-type: none"> - wastes in the shape of complete or incomplete electrical and electronic equipment or parts which come from wasted equipment (scrap generated after dismantling of electric and electronic equipment waste is allowed for further recycling or recovery by authorized entities); - all types of hazardous waste defined in accordance with the provisions of the Waste Act, including, such as: <ul style="list-style-type: none"> ✓ waste in the shape of packages related with hazardous substances having indications (pictograms), such as barrels, containers, tins which indicate that they have contact with hazardous materials/substances) or not having pictograms however indicating on having contact with hazardous materials/substances, ✓ packages uder pressure, ✓ oil filters, ✓ power cells, condensers, batteries; - post-amortization and post-production packaging waste - food packaging, such as: tins, open works and other tinplated materials; - consistent elements from cast steel and cast iron excepted elements allowed to manual or mechanical processing as a result of subsuming them in individual class specification of unprocessed steel scrap. - Overly tangled elements, in the shape of bars, wires, including barbed wire, wrapping wire, welding rods, cables, fence wire netting. 	2,0x1,5x6,0	<12	3%	

Scrap Class	Characteristic	Dimensions Max. [m]	Thickness [mm]	Maximum level of admissible contamination related to scrap [%]	Remarks
HZ-ENP	<p>Condensed steel scrap corresponding to HZ-EN10 class; It is allowed to accept waste originating from the dismantling of end-of life vehicles in the form of body parts and scrap formed after the dismantling of electric and electronic equipment waste, transferred for further recycling or recovery by authorized entities with non-metallic elements removed.</p> <p>It is not allowed to accept:</p> <ul style="list-style-type: none"> - waste in the shape of complete or incomplete electric and electronic equipment or parts which come from wasted equipment (scrap generated after dismantling of electric and electronic equipment waste, is allowed for further recycling or recovery by authorized entities); - all types of hazardous waste defined in accordance with the provisions of the Waste Act, including, such as: <ul style="list-style-type: none"> ✓ waste in the shape of packages related with hazardous substances having indications (pictograms), such as barrels, containers, tins which indicate that they have contact with hazardous materials/substances) or not having pictograms however indicating on having contact with hazardous materials/substances, ✓ packages under pressure, ✓ oil filters, ✓ power cells, condensers, batteries; - post-amortization and post-production packaging waste; - food packaging, such as: tins, open works and other tinplated materials; - consistent elements from cast steel and cast iron excepted elements allowed to manual or mechanical processing as a result of subsuming them in individual class specification of unprocessed steel scrap. - Overly tangled elements, in the shape of bars, wires, including barbed wire, wrapping wire, welding rods, cables, fence wire netting. 	2,0x2,0x3,0	nd	3%	<p>Maximum package density 0,6Mg/m³.</p> <p>Maximum density of package is 0,6Mg/m³. Steel scrap in the form of packages may be a subject to additional inspections.</p>

Scrap Class	Characteristic	Dimensions Max. [m]	Thickness [mm]	Maximum level of admissible contamination related to scrap [%]	Remarks
HZ-EN0P	<p>Post-production and post-amortization steel scrap in the form of packets cannot be polluted with hazardous material/substances</p> <p>It is not allowed to accept:</p> <ul style="list-style-type: none"> - waste in the shape of complete or incomplete electric and electronic equipment or parts which come from wasted equipment (scrap generated after disassembly of waste electric and electronic equipment transferred for further recycling or recovery by authorized entities); - all types of hazardous waste defined in accordance with the provisions of the Waste Act, including, such as: <ul style="list-style-type: none"> ✓ waste in the shape of packages related with hazardous substances having indications (pictograms), such as barrels, containers, tins which indicate that they have contact with hazardous materials/substances) or not having pictograms however indicating on having contact with hazardous materials/substances, ✓ packages under pressure, ✓ oil filters, ✓ power cells, condensers, batteries; - food packaging, such as: tins, open works and other tinplated materials; - consistent elements from cast steel and cast iron excepted elements allowed to manual or mechanical processing as a result of subsuming them in individual class specification of unprocessed steel scrap. - Overly tangled elements, in the shape of bars, wires, including barbed wire, wrapping wire, welding rods, cables, fence wire netting. 	2,0x1,5x6,0	<12	3%	<p>Dimensions of single package must be bigger than 20cmx20cmx20cm or its capacity must be bigger than 15 dm³. Packages must be prepared in a way that it is possible to establish, indisputably their purity.</p>

Scrap Class	Characteristic	Dimensions Max. [m]	Thickness [mm]	Maximum level of admissible contamination related to scrap [%]	Remarks
HZ- ENS0	<p>Steel scrap in the form of waste originated from dismantling end-of life vehicles, whole or in parts, bulk steel scrap or condensed. Vehicles in the dismantling process must be disposed of:</p> <ul style="list-style-type: none"> • Fuel and operating fluids, • refrigerant from the air conditioning system; • oil filter, • battery, • tank for LPG, • plastic tanks for fuel • elements containing explosives, • exhaust gas catalyst, elements containing harmful substances, including mercury, • flat glasses and spot lights, • tires, • Body's plastic elements like: bumper, wing mirror, protective strips and so on. <p>It is allowed to accept: whole engines or their individual parts; suspension or its parts, iron and steel cast elements, whole or in parts, originated from dismantling end-of life vehicles.</p> <p>It is not allowed to accept:</p> <ul style="list-style-type: none"> - waste in the shape of complete or incomplete electric and electronic equipment or parts which come from wasted equipment (it is allowed to accept scrap generated after disassembly of waste electrical and electronic equipment transferred for further recycling or recovery by authorized entities); - all types of hazardous waste defined in accordance with the provisions of the Waste Act, including, such as: <ul style="list-style-type: none"> ✓ waste in the shape of packages related with hazardous substances having indications (pictograms), such as barrels, containers, tins which indicate that they have contact with hazardous materials/substances) or not having pictograms however indicating on having contact with hazardous materials/substances, ✓ packages under pressure, ✓ oil filters, ✓ power cells, condensers, batteries; - post-amortization and post-production packaging waste; - food packaging, such as: tins, open works and other tinplated materials; 	2,0x2,0x3,0	nd	-	<p>Maximum package density 0,6 Mg/m³, minimum level of recovery steel scrap and non-ferrous metals in total is 60-65%. Steel scrap came under the evaluation, both visual and on the basis of control shredding. Steel scrap in the form of packages may be a subject to additional inspections.</p>

Scrap Class	Characteristic	Dimensions Max. [m]	Thickness [mm]	Maximum level of admissible contamination related to scrap [%]	Remarks
	<ul style="list-style-type: none"> - consistent elements from cast steel and cast iron excepted elements allowed to manual or mechanical processing as a result of subsuming them in individual class specification of unprocessed steel scrap. - Overly tangled elements, in the shape of bars, wires, including barbed wire, wrapping wire, welding rods, cables, fence wire netting. 				
HZ-ENS	<p>Steel scrap in the form of waste originating from dismantling laid up vehicles, whole or in parts, bulk scrap, condensed; must contain complete suspension system. Vehicles in dismantling process must be disposed of:</p> <ul style="list-style-type: none"> • Fuel and operating fluids, • refrigerant from the air conditioning system; • oil filter, • battery, • tank for LGP, • plastic tanks for fuel • elements containing explosives, • exhaust gas catalyst, elements containing harmful substances, including mercury, • flat glasses and spot lights, • tires, • Body's plastic elements like: bumper, wing mirror, protective strips and so on. <p>It is allowed to accept:</p> <ul style="list-style-type: none"> - iron and steel cast elements, whole or in parts, originated from dismantling end-of life vehicles. - whole engines or its individual parts. <p>It is not allowed to accept:</p> <ul style="list-style-type: none"> - waste in the shape of complete or incomplete electric and electronic equipment or parts which come from wasted equipment (scrap generated after disassembly of waste electric and electronic equipment transferred for further recycling or recovery by authorized entities); - all types of hazardous waste defined in accordance with the provisions of the Waste Act, including, such as: 	2,0x2,0x3,0	nd	-	<p>Maximum package density 0,6 Mg/m³, minimum level of recovery of steel scrap and non-ferrous metals in total is 71%. Steel scrap came under the evaluation, both visual and on the basis of control shredding. Steel scrap in the form of packages may be a subject to additional inspections.</p>

Scrap Class	Characteristic	Dimensions Max. [m]	Thickness [mm]	Maximum level of admissible contamination related to scrap [%]	Remarks
	<ul style="list-style-type: none"> ✓ waste in the shape of packages related with hazardous substances having indications (pictograms), such as barrels, containers, tins which indicate that they have contact with hazardous materials/substances) or not having pictograms however indicating on having contact with hazardous materials/substances, ✓ packages under pressure, ✓ oil filters, ✓ power cells, condensers, batteries; - post-amortization and post-production packaging waste; - food packaging, such as: tins, open works and other tinplated materials; - consistent elements from cast steel and cast iron excepted elements allowed to manual or mechanical processing as a result of subsuming them in individual class specification of unprocessed steel scrap. - Overly tangled elements, in the shape of bars, wires, including barbed wire, wrapping wire, welding rods, cables, fence wire netting. 				
HZ-ENS+	<p>Steel scrap of HZ-ENS class, must contain complete engines along with fixture, as the integral part of waste originating from dismantling laid up vehicles. In case of condensing steel scrap before delivery, by flatterring, cutting, baling or prepacking, key elements which are crucial for material class, like suspensions or complete powertrain (engine and gearbox) must be visible and placed in such, indisputable way, that it is possible to establish their presence. Vehicles in dismantling process must be disposed of:</p> <ul style="list-style-type: none"> • Fuel and operating fluids, • refrigerant from the air conditioning system; • oil filter, • battery, • tank for LGP, • plastic tanks for fuel • elements containing explosives, • exhaust gas catalyst, elements containing harmful substances, including mercury, • flat glasses and spot lights, • tires, • Body's plastic elements like: bumper, wing mirror, protective strips and so on. 	2,0x2,0x3,0	nd	-	<p>Maximum package density 0,8 Mg/m³, minimum level of recovery of steel scrap and non-ferrous metals, during test processing, in total is 76%. Steel scrap came under the evaluation, both visual and on the basis of control shredding. Steel scrap in the form of packages may be a subject to additional inspections. According to regulation resulted from steel scrap supply</p>

Scrap Class	Characteristic	Dimensions Max. [m]	Thickness [mm]	Maximum level of admissible contamination related to scrap [%]	Remarks
	<p>Iron and steel cast elements originating only from dismantling laid up vehicles, whole or in parts, are allowed.</p> <p>It is not allowed to accept:</p> <ul style="list-style-type: none"> - waste in the shape of complete or incomplete electric and electronic equipment or parts which come from wasted equipment (scrap generated after disassembly of waste electric and electronic equipment transferred for further recycling or recovery by authorized entities); - all types of hazardous waste defined in accordance with the provisions of the Waste Act, including, such as: <ul style="list-style-type: none"> ✓ waste in the shape of packages related with hazardous substances having indications (pictograms), such as barrels, containers, tins which indicate that they have contact with hazardous materials/substances) or not having pictograms however indicating on having contact with hazardous materials/substances, ✓ packages under pressure, ✓ oil filters, ✓ power cells, condensers, batteries; - post-amortization and post-production packaging waste; - food packaging, such as: tins, open works and other tinplated materials; - consistent elements from cast steel and cast iron excepted elements allowed to manual or mechanical processing as a result of subsuming them in individual class specification of unprocessed steel scrap. <p>Overly tangled elements, in the shape of bars, wires, including barbed wire, wrapping wire, welding rods, cables, fence wire netting.</p>				<p>contract, it may be required a graphic indication on the material.</p>
HZ-EHRB	Condensed scrap in the form of sheets, open works, flat bars, profiles and other light construction elements.	1,5x0,5x0,5	<3	1,5%	

Scrap Class	Characteristic	Dimensions Max. [m]	Thickness [mm]	Maximum level of admissible contamination related to scrap [%]	Remarks
	<p>Waste originating from the dismantling of laid up vehicles in the form of body parts and scrap formed after the dismantling of waste electrical and electronic equipment is allowed for further recycling or recovery by authorized entities with non-metallic elements removed.</p> <p>It is not allowed:</p> <ul style="list-style-type: none"> - waste in the shape of complete or incomplete electric and electronic equipment or parts which come from wasted equipment (scrap generated after disassembly of waste electric and electronic equipment is allowed for further recycling or recovery by authorized entities); - all types of hazardous waste defined in accordance with the provisions of the Waste Act, including, such as: <ul style="list-style-type: none"> ✓ waste in the shape of packages related with hazardous substances having indications (pictograms), such as barrels, containers, tins which indicate that they have contact with hazardous materials/substances) or not having pictograms however indicating on having contact with hazardous materials/substances, ✓ packages under pressure, ✓ oil filters, ✓ power cells, condensers, batteries; - post-amortization and post-production packaging waste; - food packaging, such as: tins, open works and other tinplated materials; - consistent elements from cast steel and cast iron excepted elements allowed to manual or mechanical processing as a result of subsuming them in individual class specification of unprocessed steel scrap. - Overly tangled elements, in the shape of bars, wires, including barbed wire, wrapping wire, welding rods, cables, fence wire netting. - Condensed steel scrap in the form of packets 				
HZ-E1	<p>Steel scrap in the form of sheets, open works, flat bars, profiles and other light construction elements; It is not allowed to accept:</p> <ul style="list-style-type: none"> - waste in the shape of complete or incomplete electric and electronic equipment or parts which come from wasted equipment; 	1,5x0,5x0,5	<3	1,5%	

Scrap Class	Characteristic	Dimensions Max. [m]	Thickness [mm]	Maximum level of admissible contamination related to scrap [%]	Remarks
	<ul style="list-style-type: none"> - all types of hazardous waste defined in accordance with the provisions of the Waste Act, including, such as: <ul style="list-style-type: none"> ✓ waste in the shape of packages related with hazardous substances having indications (pictograms), such as barrels, containers, tins which indicate that they have contact with hazardous materials/substances) or not having pictograms however indicating on having contact with hazardous materials/substances, ✓ packages under pressure, ✓ oil filters, ✓ power cells, condensers, batteries; - post-amortization and post-production packaging waste; - consistent elements from cast steel and cast iron excepted elements allowed to manual or mechanical processing as a result of subsuming them in individual class specification of unprocessed steel scrap. - Overly tangled elements, in the shape of rods, wires, including barbed wire, wrapping wire, welding rods, cables, fence wire netting. - Scrap waste originating from dismantling end-of-life vehicles in whole or in part; - scrap generated after disassembly of waste electric and electronic equipment transferred for further recycling or recovery by authorized entities - Condensed steel scrap in the form of packets 				
HZ-E0	Steel scrap after reclassifying of unprocessed scrap, which does not fulfill the Factory Standard in reference to dimensions.	nd	nd	-	

FACTORY STANDARD_UNPROCESSED SCRAP TABLE1_CLASS LIST_SCRAP FOR MECHANICAL OR MANUAL PROCESSING.

Scrap Class	Characteristic	Dimensions Max. [m]	Thickness [mm]	Maximum level of pollution [%]	Comments/ Remarks
HZ-51	Construction, spatial, large-size steel scrap; steel scrap in the form of rails (also incomplete without head or foot), rail and tram turnouts, wheelsets;	2,0x2,0x6,0	≥8	1,0%	
HZ-52	<p>Light construction scrap, spatial, large-size scrap; in the form of sheets, open works, flat bars, profiles and other light construction elements.</p> <p>It is not allowed to accept scrap in the form of waste, originated from dismantling end-of life vehicles whole or in parts and steel scrap originating from dismantling electric and electronic equipment transferred for further recycling or recovery by authorized entities.</p> <p>Rims and suspension elements are allowed.</p>	2,0x2,0x6,0	≥3	1,0%	