1. Area of Application

These application recommendations are valid for waste and recycling containers (AWB) according to RAL-GZ 951/1 for:

– 2-wheeled waste and recycling containers with a volume of up to 400 liters
– 4- wheeled waste and recycling containers with a volume of up to 1300 liters

2. Regulations and Guidelines

DIN EN 840-1	Mobile waste containers – 2-wheeled containers and a nominal volume of up to 400 liters for comb lifting devices - dimensions and design
DIN EN 840-2	Mobile waste containers – 4-wheeled containers and a nominal volume of up to 1300 liters with a flat lid(s) for lifting devices with trunnion lifting devices and/or comb lifting devices – dimensions and design
DIN EN 840-3	Mobile waste containers – 4-wheeled containers and a nominal volume of up to 1300 liters with a sliding lid(s) for lifting devices with trunnion lifting devices and/or comb lifting devices – dimensions and design
DIN EN 840-5	Mobile waste containers – requirements concerning design and test procedures
DIN EN 840-6	Mobile waste containers – health and safety requirements
DIN 30760	Mobile waste containers - 2-wheeled containers with a nominal volume of 60 liters to 360 liters for diamond lifters
EN 15132	Waste container shells/shelters
EN 1501-1 to 5	Waste collection vehicles
2009/104/EG	User guidelines – accident prevention regulations (German UVV)
90/269 EWG	Guidelines concerning lifting and carrying loads that are harmful to health in the case of the manual handling of loads during work (German work safety regulation (*Lastenhandhabungsverordnung – LasthandhabV*)
RAL-GZ 951/1	Plastic Waste and recycling container – quality assurance

3. Intended Use

3.1. Collection of Recyclable Materials and Residual Waste

- The container is intended for the collection of recyclables and residual waste.
  Only waste according to regulated groups (e.g. residual waste, recovered paper, glass, organic compostable waste) may be put into the respective recycling container.
- Waste and recycling containers shall be treated carefully and appropriately and must be visually inspected for damage before use that could cause hazardous situations. Do not use a container any longer in such cases!
- Neither hot ashes, nor corrosive, burning, red-hot or hot materials, nor materials that could deform or damage the container may be put into the container.
- Dead animals or other materials, whose storage and transport are regulated by law, may not be put into containers. This includes varnish and paint residues, medicines etc. (see GGVS, GGVE, GGVSee for Germany; ADR-regulations for Europe).

3.2. Maximum Permissible Gross Weight

The maximum permissible gross weight of the filled container may not be exceeded (see label on the body). According to DIN EN 840, the permissible gross weight is calculated using the equation: density 0.4 [kg/dm³] x nominal volume plus weight of container. Filling a container with normal household waste does not normally lead to the maximum allowed weight being exceeded. Exceeding the maximum permissible gross weight is, however, possible when the container is completely filled with construction waste, food waste, or similar materials that have a high specific density.

Container Size (AWB=Waste/Recycling Container)	Maximum Permissible Gross Weight	Container Size	Maximum Permissible Gross Weight
AWB 60	50 kg	AWB 500	240 kg
AWB 80/90	50 kg	AWB 660	310 kg
AWB 110/120	60 kg	AWB 770	360 kg
AWB 140	70 kg	AWB 1000	460 kg
AWB 180/190	90 kg	AWB 1100	510 kg
AWB 240	110 kg	AWB 1700	580 kg
AWB 260	120 kg		
AWB 340/360	160 kg		

3.3. Waste Group Coding

The color of the lid marks, as a rule, the specific waste or recycling material to be collected. Color code guidelines according to group are defined in RAL-GZ 951/1

Colour recommendations for the identification of waste and recyclables according to the RAL Quality mark RAL-GZ 951/1

Colours	Comparable to RAL-colour samples	Recommended use
grey	7021	Residual waste
green	6011	Bio-waste or green glass, respectively
green (suitable for the use of recyclates)	6020	Bio-waste or green glass, respectively
brown	8025	Bio-waste or brown glass, respectively
brown (suitable for the use of recyclates)	8028	Bio-waste or brown glass, respectively
blue	5015	Recovered paper
blue (suitable for the use of recyclates)	5003	Recovered paper
yellow	1018 1021	Light-weight packaging materials
red	3020	Hazardous substances
white	9003	Hospital waste or white glass, respectively

The colour values shown above are colour guidelines according to RAL. It should be noted that the colours outlined in the overview are recommendations only.

3.4. Filling Waste and Recycling Containers

- Open the container lid only using the intended lid handle or the lip handle on the lid, respectively, in order to fill the container.
- Do not open or close lids, especially sliding lids, from the back face. A sliding lid may also not be opened or closed from the side.
- In the case of mounted parts, e.g. foot operated lid openers, these should be primarily used for opening the containers, otherwise damage to the container or hazardous situations could occur.
- In the case of opening variants, such as special inserts for glass, paper hoods or other options, these openings must be used.
- Locking systems must be unlocked before the container is filled.
- The lid must be opened far enough so that accidental or unintended closing (e.g. by a gust of wind or movement of the container) during filling is prevented.
- Waste, as well as recyclables must be put into containers in such a way as to prevent hazardous situations, such as dust formation, vapor formation, splintering or splattering, from occurring.
- Do not bend over into the container.
- Neither hot ashes, nor corrosive, burning, red-hot or hot materials, nor materials that could deform or damage the container may be put into the container.
- Waste may not be put into recycling containers that could damage or excessively dirty waste collection vehicles or waste plants.
- Waste and recyclables may not be pressed or excessively pushed into containers.
- Waste and recycling containers may only be filled to the point where the lid can still be fully closed.
- Should locking systems exist on a container, these must be safely re-locked after the container has been filled.
- The lid must be closed after each filling process (protection against rain water, insects and small animals).

3.5 Emptying Waste and Recycling Containers Using Lifting Devices

The container is not intended to be emptied manually. It is equipped with a frontal receiver according to DIN EN 840 Form A and approved for lifting devices with comb according to DIN EN 1501-5. 4-wheeled containers can be additionally equipped with trunnions according to DIN EN 840 and lifted with a trunnion lifting device according to DIN EN 1501-5.

- When using lifting devices, it must be ensured that the entire receiving section of every container is supported over its complete width by the combed teeth of the lifting device.
- In addition, the entire surface of the upper side of the container's frontal receiver must be covered during the entire emptying cycle by the clamp of the vehicle's lifting device. The dimensions of the vehicle's lifting device must be compliant with the recommendations for the manufacturers of lifting devices according to DIN EN 840, as well as the series of standards EN 1501. This has to be checked regularly and to be corrected if necessary.
- The containers are designed and tested according to RAL-GZ951/1 for a maximum angle expansion of the frontal receiver of 25°. The lifting device standard DIN EN 1501-5 stipulates this maximum permissible angle expansion for the lifting devices as well. It is necessary to ensure that this angle expansion is not exceeded, e.g. by improper speed of the lifting device or acceleration thereof, respectively, by frequent shaking and /or incorrect retention in the emptying positions of the lifting device.
- Containers with damaged receivers may not be emptied and must be replaced immediately.
- When the container is placed in the lifting device, the lid must be completely closed (full contact between lid and container body), which means that the lid may not be in an upright position or otherwise open due to container overload. Otherwise the lid could be damaged by parts of the lifting device.

3.6. Recommendations of Use for Organic Waste Containers

It is recommended, especially during the summer and winter months, to wrap organic waste in, e.g. newspaper. The chance of organic waste freezing onto the container in the winter is minimized by moisture being absorbed by the newspaper. The fermentation process of organic waste is inhibited in the summer months by moisture being absorbed by the newspaper and it partially reduces the spreading of unpleasant odors, lessens the number of insects being attracted, which in turn leads to a decrease in the development of maggots.
In addition, organic waste containers with ventilation and grids could be used to achieve weight reduction and/or for automatic liquid extraction could be used. Sealed systems with or without filter lids can be used for certain applications.
In general the following applies:

- Organic waste containers should, if possible, be placed in the shade. When placed in direct sunlight, temperatures in the container can reach over 60°C and the plastic will become more flexible.
- The lid should always be closed immediately after each filling.
- Wrap moist waste in newspaper.
- Do not fill the container with liquids.
- Garden waste and kitchen waste should be respectively layered.
- Do not fill containers with moist grass cuttings. This quickly leads to clumping and can hinder emptying.
- Clean the container periodically with water.
- Pay attention to the total permissible weight of the container (stamped on the front edge of the container).
  Overfilling leads to risk of injury during transport and emptying into the waste collection vehicle!

3.7. Container Location and Movement

- Containers may only be moved and rolled using the push handles or handle bar, respectively.
- The container is not intended to be carried.
- Objects may not be placed or stored on the container or the lid, respectively.
- Accumulated snow or ice must be removed from the container before use.
- The container must be placed on level ground. Care must be taken that the waste and recycling container is always in a safe position.
- The use of containers in areas exposed to explosion hazards is not permissible due to electrostatic charging in the case of plastic containers and a possible sparking effect of steel containers.
- The containers fit into waste container shells according to DIN EN 15132.
- A container may only be transported when fully closed due to the possibility of waste escaping and the fact that contained gases, vapors and dust could possibly pose a health risk.

3.8 Cleaning Waste and Recycling Containers

- Waste and recycling containers should be periodically washed out with water.
- Waste water disposal regulations must be observed.
- Do not use abrasive cleaning agents or solvents!

Cleaning with high pressure

AWBs may be cleaned with high-pressure cleaners under the following conditions:

1) AWBs are to be cleaned with standard high-pressure cleaners (up to max. 145 bar) using wide-slot nozzles.
2) The nozzle must be kept at a minimum distance of at least 200 mm from the object being cleaned.
3) The spray jet must not be kept on a single spot of the AWB for any more than 1 second.
4) Cleaning agents may be used, provided HDPE is chemically resistant to those cleaning agents. After cleaning, all residues of cleaning agent must be completely removed from the AWB using clear water.
5) The maximum water temperature must not exceed 60 °C, keeping point 2 in mind (max. 1 second on one spot).
6) The core temperature of the AWB must not exceed 45 °C during the cleaning and drying process.
7) Precautions must be taken for occupational safety, in particular safety evaluation, instruction, personal protective equipment, scalding prevention, dangers of the high-pressure water jet, dangers from the cleaning agent, etc.
8) Ensure that the waste water is disposed of properly, in compliance with the relevant environmental regulations.
9) If any damage is recognised after the cleaning process, the extent of the damage must be assessed as described in chapter 9 “Possible AWB damage/malfunctions and actions to be taken”.

4. Repair

- Use only original spare part for repairs on containers.
- Only persons authorized by the waste and recycling container manufacturer may carry out container repairs.
- The repair of damaged receivers is not permissible.
  This ruling is valid for the DIN-frontal receiver (DIN EN 840 Form A), the Diamond-receiver (DIN 30760), trunnion receivers of the trunnion lifting devices (4-wheeled), and all other receivers!
- The manufacturers’ assembly instructions regulate all further details.

5. Retrofitting of Supplementary Equipment

- In the case of container retrofitting, e.g. supplementary equipment such as fitting with locks, only the manufacturer's original parts may be used. Fitting may only be carried out by a person authorized by the manufacturer.
- The manufacturers' assembly instructions regulate all further details.

6. Tests

- The waste and recycling container must be checked concerning the safety of its condition before each emptying procedure or at least annually. This includes the sound condition of its receiver parts, the condition of wheels and their housings, brake condition and functionality, lid fittings / hinges and, in the case of waste and recycling containers with domed lids, the condition and functionality of the child safe mechanism according to DIN EN 840-6.
- If the receiver mechanism is damaged, the container may not be placed into an emptying mechanism. It must be replaced.
- In the case of defective wheels/wheel housing/wheel brakes, repairs must be carried out. Defects must be dealt with immediately before the container may be used again.
- Waste and recycling containers with dome lids and equipped with a child safety device (safety lid/lid in lid/double-button lids/spring safety mechanism) should be examined concerning their function as child safety solutions. A safety lid shall be examined for easy opening and it must guarantee a child safe gap of at least 181 millimeters before the lid, by means of additional manual closing, is completely closed.
- If the existing child safety mechanism on a waste and recycling container with dome lid is no longer functional, the container must be taken out of service immediately and either repaired or replaced.

7. Storage and Transport

- The unloading of containers from transport vehicles must be carried out with care.
  The containers, whether stacked nor individual, may not be allowed to fall from the vehicle to the ground.
- In the case of containers being stored temporarily, the load on the running gear and stacking ribs may not be too heavy. Long term storage in stacks in not permitted.
- Stacking ribs on containers are not designed or intended for continuous long-term use.
- Stacks under maximum strain may not be stored continuously for longer then 12 weeks. In the case of exceeding the 3 month time limit, optical changes, e.g. warping of the stacking ribs and the containers' side surfaces may occur, however, functionality and usability of containers when stored in stacks for up to 6 months remain intact.

- When being stored outdoors, open containers must be protected against rain water and snow, respectively. Care must be taken in this situation that not only the top container is closed, e.g. by closing its lid, but that all of the containers underneath are also protected against water seepage by means of appropriate measures. A container filled with water greatly exceeds its maximum total permissible load weigh.

8. SAFETY INSTRUCTIONS

- The surface in front of where a container is located and the surface it stands on should be level and paved!
- Do not put your head into a container!
- Especially in the case of 4-wheeled waste and recycling containers take care to:
  – never lean over into a container and never put your head into a container!
  – This applies especially to containers with domed lids, since these containers are equipped with lid relief springs and the open lid can close by itself!
  – This also applies when the lid is locked into a half-open or open position, even when the container is equipped with a child safety mechanism according to EN 840-6.
- Do not sit or stand on a container!
- Do not overfill – danger of tipping over (risk of injury and/or damage possible)!
- Move or transport the waste and recycling container only when the lid is completely closed!
- Place the waste and recycling container in the lifting device only when the lid is closed!
- Take caution when pulling containers up and pushing them down inclines!
- Do not place containers near open fires, bar-b-ques or other similar heat sources!
- Do not place containers on downward inclines (maximum gradient 8%)!
- Use the locking brake (central stop) or, in the case of wheel stop types, lock both wheel stops each time after moving the container. Check, when necessary, if the break mechanism is activated, especially when positioned on a downward incline!

9. Possible Damage on Waste and Recycling Containers/Malfunctions and Countermeasures

9.1 2-wheeled waste and recycling containers up to 400 liters

Defect	Results	Measures
- Cracks in the container's walls	- Waste/fluids could leak.	- Replace the body.
- The lifting comb has cracks or is damaged (safety component).	- The container can not be properly and safely placed in the lifting device. There is a danger of injury to waste collection workers and bystanders from the container falling out of the lifting device during emptying. - Risk of injury due to sharp or pointed edges.	- The container may no longer be used. - Replace the body.
-The lid has cracks or other damage.	- Risk of injury due to sharp or pointed edges. - Mold spores may be discharged, especially in the case of organic waste containers. - Escape of odors.	- Replace the lid.
- Lid hinge is torn off on one side.	- Problems during the emptying process due to lid swinging around. - Lid falling off during the emptying process and the risk of injury to involved waste collection workers and bystanders as well as other persons during use of the container.	- The container may no longer be used. - Replace the lid.
- Wheel/wheels are defective.	- The container can no longer be moved properly (pushed or pulled).	- The container may no longer be used. - Replace the wheel/wheels.
- Bent axle	- The container can no longer be moved properly (pushed or pulled).	- The container may no longer be used. - Replace the axle

9. Possible Damage on Waste and Recycling Containers/Malfunctions and Countermeasures

9.2 4-wheeled waste and recycling container up to 1100 liters – general

Defect	Results	Measures
- Cracks in the container's walls	- Waste/fluids could leak.	- Replace the body.
- The lifting comb has cracks or is damaged (safety component).	- The container can not be properly and safely placed in the lifting device. There is a danger of injury to waste collection workers and bystanders from the container falling out of the lifting device during emptying. - Risk of injury due to sharp or pointed edges.	- The container may not longer be used. - Replace the body.
- The trunnions are cracked or damaged (safety component).	- The container can not be properly and safely placed in the lifting device (falls out of the lifting device). - Risk of injury	- The container may no longer be used. - Replace the trunnion.
-The lid has cracks or other damage.	- Risk of injury due to sharp or pointed edges. - Mold spores may be discharged, especially in the case of organic waste containers. - Escape of odors.	- Replace the lid.
- Central locking brake is defective.	- The container can no longer be moved properly (pushed or pulled). - Castor can no longer be properly braked and the container can roll away (no safe placing at the standing location possible).	- The container may no longer be used. - Replace the defective castors. - Adjust the castors if possible. - Replace completely or replace components of the central locking brake.
- Double-stop castor is defective.	- The container can no longer be moved properly (pushed or pulled). - Castor can no longer be properly braked and the container can roll away (no safe placing at the standing location possible).	- The container may no longer be used. - Replace the defective castors. - Adjust the castors if possible.
- Castor is defective	- The container can no longer be moved properly (pushed or pulled).	- The container may no longer be used. - Replace the defective castors.
- Steering lock is defective	- Steering lock does not lock into place and the container can no longer be steered properly.	- Replace the defective steering lock

9. Possible Damage on Waste and Recycling Containers/Malfunctions and Countermeasures

9.3 4-wheeled waste and recycling containers up to 1100 liters – flat lid

Defect	Results	Measures
- Hinge is defective (e.g. torn off).	- Problems during the emptying process due to lid swinging around. - Lid falling off during the emptying process and the risk of injury to involved waste collection workers and bystanders as well as other persons during use of the container.	- The container may no longer be used. - Replace the lid. - Replace the body. - Replace the hinge.

9. Possible Damage on Waste and Recycling Containers/Malfunctions and Countermeasures

9.4 4-wheeled waste and recycling containers up to 1100 liters – dome lid

Defect	Results	Measures
- Lid hinge defective	- Problems during the emptying process due to lid swinging around. - Lid falling off during the emptying process and the risk of injury to involved waste collection workers and bystanders as well as other persons during use of the container.	- The container may no longer be used. - Replace defective parts.
- Lid trunnion (damaged or missing)	- Problem during emptying process - Lid jams or doe s not open and the container can be damaged (lid's opening trunnion, body, lid etc.).	- The container may no longer be used. - Replace the lid's opening trunnion or replace missing parts.
- Finger protection rail (partially torn off or missing)	- Risk of injury due to finger(s) getting caught between lid and body.	- Replace the defective finger protection guard or replace the missing finger protection guard.

9. Possible Damage on Waste and Recycling Containers/Malfunctions and Countermeasures

9.5 4-wheeled waste and recycling containers up to 1100 liters – dome lid with lid in lid (LiL)

Defect	Results	Measures
- Hinge defective (e.g. torn off)	- Problems during the emptying process due to lid swinging around. - Lid falling off during the emptying process and the risk of injury to involved waste collection workers and bystanders as well as other persons during use of the container.	- The container may no longer be used. - Replace the main lid. - Replace the secondary small lid. - Replace the hinge.

9. Possible Damage on Waste and Recycling Containers/Malfunctions and Countermeasures

9.6 4-wheeled waste and recycling containers up to 1100 liters – dome lid with child safety feature

Defect	Results	Measures
- Components of the child safety device defective or missing.	- Child safety mechanism no longer functions properly - Risk of injury due to getting caught between the lid and the body of the container.	- The container may no longer be used. - Replace the defective/missing child safety components.