

Recycling Manual

For Netti wheelchairs



RECYCLING MANUAL FOR NETTI WHEELCHAIRS

The future is about taking care of the environment

Alu Rehab is working to reduce pollution throughout the process of production from the raw material, through development, manufacturing, waste management, refurbishment and recycling of the materials.

The Netti III Comfort is the first Wheelchair to have been passed through EPD (Environmental Product Declaration), reducing effect on environment and energy consumption from manufacturing to freight.

Thank you for choosing a product from Alu Rehab

WHY REFURBISHMENT?

Alu Rehab as manufacturer of wheelchairs takes great pride in making wheelchairs that ensure safe use for attendant and user. We make durable wheelchairs that can be used and reused for very many years maintaining their functionalities when refurbished properly.

We know the most effective way to spare the environment is to reuse the products we make.

ASSESSMENT before recycling:

Make a thorough assessment of the wheelchair and check if it can be refurbished / repaired once more. New spare parts, paint, cushions and wheels can be purchased from Alu Rehab. The most environmental friendly solution is to reuse if possible.

RECYCLING

When the wheelchair has reached the end of life it is important that the recycling is done with the same care as the production.

Dependent on the recycling system / waste distribution companies you are connected to, the level of separation required will vary.

The lowest level of recycling is separating metal, wood and plastic parts, where-after metal is melted and the rest is burned. Dependent on the burning process this may cause severe pollution to the environment if not performed according to highest recycling knowledge. By burning the energy can be used.

The highest level of recycling is separating components into groups of the same types of materials all to be reused in relevant recycling processes, not causing pollution to the environment:

METALS - Melting and reuse of: -
steel, aluminium and zink.

PLASTIC - Shredding, melting, chemical treatment and reuse of: PUR, ABS, PVC, PE, TPE, PA6, PET

Parts big enough to have space for recycling code are marked with it for identification. Please also study the list at the end of this manual.

WOOD - chipping for new fibre boards or heat production by burning.

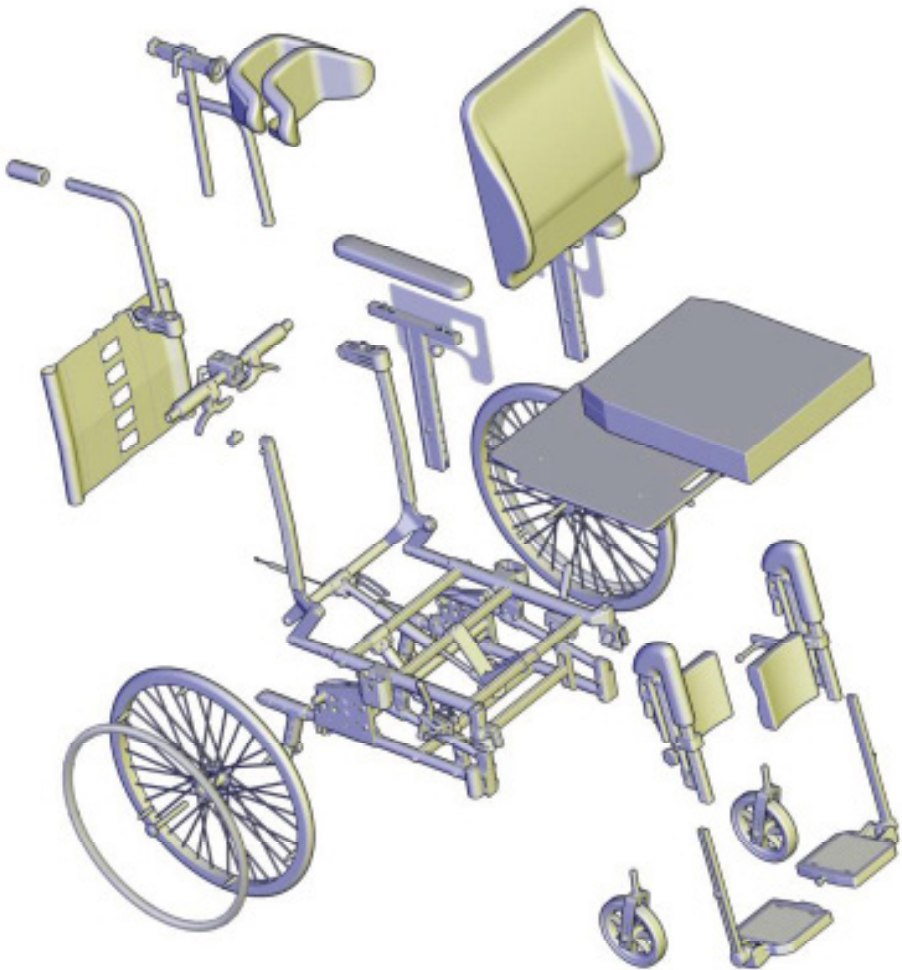
Contact your local recycling agent to get correct information how to handle the separated components / materials in your area.

Please follow the recycling description on next pages.

Always deliver dangerous components like electric and electronic components, batteries and gas springs to authorised recycling systems.

SEPARATE ALL COMPONENTS

Unscrew all parts of the frame and separate into groups of material that can be reused.
Separate all components of the wheelchair.



Wheelchair component	Separate	How to handle	Material	Soft / hard plastic; metal	Lowest level of recycling	High level recycling process
Cushions	<i>Remove from wheelchair</i>					
	Cushions cover	Unzipp cover - material spec on label	Polyester	Soft	Burn	PET recycling
	Cushion foam	Throw away	PUR	Soft	Burn	PUR recycling
Head rest	<i>Remove from wheelchair</i>					
	Vertical profile	Unscrew,	Aluminum profile	Metal scrap	Melt	Melt
	Horizontal profile	Unscrew from head rest back shell,	Aluminum profile	Metal scrap	Melt	Melt
	Star adjustment wheels	Unscrew,	PA6	Hard	Burn	PA recycling
	Release handles	Unscrew	Zink AC41A cast alloy	Metal scrap	Melt	Melt
Head rest cushion	Head rest back shell	Unscrew from inner frame	ABS	Hard	Burn	ABS recycling
	Head rest inner frame					
	Cushion cover	Cut loose, separate into cover and foam	Polyester	Soft	Burn	PET recycling
	Cushion foam	Cut loose, separate into cover and foam	PUR	Soft	Burn	PUR recycling
Leg support	<i>Remove leg supports from wheelchair</i>					
	Knee upholstery cover	Remove /unzipp and separate cover	Polyester	Soft	Burn	PET recycling
	Knee upholstery foam	Separate	PUR	Soft	Burn	PUR recycling
	Adjustment wheel	Unscrew	PA6	Hard	Burn	PA recycling
	Profiles	Separate	Aluminium, steel	Metal scrap	Melt	Melt
	Foot plate - metal	Separate	Aluminium, steel	Metal scrap	Melt	Melt
	Foot plate plastic	Separate	ABS	Hard	Burn	ABS recycling
	Gas cylinder	Separate	Steel - under pressure		Collect into separat container - dangerous goods	Collect into separat container - dangerous goods
	Top of leg support	Throw away together with profiles	Aluminum - cast	Metal scrap	Melt	Melt
Calf support	Cushion	Unscrew from chair, cut loose from bracket	PUR	Hard	Burn	PUR recycling
	Bracket	Unscrew	Aluminium, steel	Metal scrap	Melt	Melt
Arm supports	<i>Remove / detach from wheelchair</i>					
	Armrest pad	Unscrew from the rest, cut loose from profile inside	PUR	Hard	Burn	PUR recycling
	Cloth protectors	Unscrew	PA6 30%GF	Hard	Burn	PA recycling
		Unscrew	ABS	Hard	Burn	ABS recycling
	Main armrest frame		Aluminum - cast	Metal scrap	Melt	Melt
	Armrest bracket on frame	Unscrew from frame	PA6 30%GF	Hard	Burn	PA recycling
Anti tippers	<i>Remove / detach from wheelchair</i>					
	Step pedal	Unscrew	PA6 30%GF	Hard	Burn	PA recycling
	Profile		Aluminum profile	Metal scrap	Melt	Melt
Push handles/push bow	<i>Remove / detach from wheelchair</i>					
	Push handles	Unscrew from chair back	Aluminum profile	Metal scrap	Melt	Melt
	Push handle grip	Cut loose	TPE black rubber	Soft	Burn	TPE recycling
	Release handles	Unscrew	Zink AC41A cast alloy	Metal scrap	Melt	Melt
Wheels	<i>Remove / detach from wheelchair</i>					
	Main wheels tires	Cut away	PUR	Hard	Burn	PUR recycling
	Main wheel spokes and rim		Steel	Metal scrap	Melt	Melt
	Push rim	unscrew from main wheel	Aluminum profile	Metal scrap	Melt	Melt
	Front castor fork	unscrew from wheel	Steel	Metal scrap	Melt	Melt
	Front castor tires	Cut away	PUR	Hard	Burn	PUR recycling
	Front castor rim		Aluminum - cast	Metal scrap	Melt	Melt
	Alternative castor rim		PUR	Hard	Burn	PUR recycling
Chair back	Unscrew from seat frame					
	Velcro back	Cut loose	PVC with GF	Soft		
	Straps and locks	Cut loose from velcro	Polyester	Soft	Burn	PET recycling
	Push bow bracket	Unscrew	PA6 30%GF	Hard	Burn	PA recycling
	Head support adapter	Unscrew	PA6 30%GF	Hard	Burn	PA recycling
	Release handles	Unscrew	PA6 30%GF	Hard	Burn	PA recycling
	Cylinder hinge	Unscrew	PA6 30%GF	Hard	Burn	PA recycling
	Cylinder hinge chain	Unscrew	Aluminium	Metal scrap	Melt	Melt
	Back tubes and profiles		Aluminum profile	Metal scrap	Melt	Melt

Chair frame						
	Seat plate	Unscrew from frame	Plywood		Burn	Schredd
	Gas cylinders	Unscrew from frame	Steel - under pressure		Collect into separat container - dangerous goods	Collect into separat container - dangerous goods
	Bracket for chair back cylinder	Unscrew from frame	Steel	Metal scrap	Melt	Melt
	Extension pieces for leg support fixing	Unscrew from frame	Aluminum cast item	Metal scrap	Melt	Melt
	Back cylinder hinge	Unscrew	PA6 30%GF	Hard	Burn	PA recycling
	Screws	Remove all screws	Steel	Metal scrap	Melt	Melt
	Frame profiles		Aluminum profile	Metal scrap	Melt	Melt
Electrical parts	Actuators, cables, controlboxes	Remove all electrical parts			Collect into separat container - electrical parts	Collect into separat container - electrical parts
Batteries		Detach from wheelchair frame, detach cables,			Collect standing in separate boxes	Collect standing in separate boxes

Deliver the wheelchair parts to professional recycling sites for the materials to be recycled and turned into raw material for new products; alternatively to be burned for energy gain, under controlled processes without pollution to the environment.

Recycling of wheelchair transport wrapping materials:

Material:	Made of :	Recycling:
Cardboard transport boxes:	Recycled cardboard material	Send for cardboard recycling.
Plastic bags for cushions:	PE - polyethylene	Collect, send for PE-recycling
Other plastic bags:	PE - polyethylene	Collect, send for PE-recycling
Shrink plastic:	PE - polyethylene	Collect, send for PE-recycling
Tape - adhesive:	BOPP = PP - polypropylene	Collect, send for PP-recycling
Strong outer straps fixing boxes to pallets:	PP - polypropylene	Collect, send for PP-recycling

RAW MATERIALS TO MAKE NEW PRODUCTS

The following list describes which materials are used in the different components and indicating a recycling process.

METAL PARTS:

Aluminium

Wheelchair frame.

Push rim.

Extruded profiles and parts made out of them.

Aluminium parts are melted and used to make new aluminium parts.

Steel

All screws and nuts.

Main wheel rim and spokes.

Circular tubes.

Steel is melted and used for new steel parts.

Zinc AC41A

Release handles.

Zinc is melted and used in the metal industry for new parts.

WOOD

Plywood Seat plate.

Wood is chopped for chipboard or burned for energy.

BATTERIES

Batteries are to be delivered to specific recycling for batteries.

ELECTRICAL components, motors and actuators are to be handled as electrical waste.

PLASTIC PARTS:

PUR - polyurethan

Cushions – the foam

Wheel tires

Armrest pads

All lited items are made of polyurethane which can be chemically recycled.

Polyester - textile PET

Belts

Upholstery fabrics are mainly polyester which can be recycled to new polyester.

PVC - polyvinylchloride

The Velcro back is PVC. - PVC compounds are recyclable physically, chemically or energetically. The end results is a granulated/powder recycleate which can be used into new PVC products.

PA6

Plastic components like brackets knobs etc. are made of PA6 GF 30. They can be recycled to new products.

ABS

Cloth protectors.

ABS can be recycled to new ABS products.

TPE - Thermoplastic elastomers =thermoplastic rubbers

Push handle grip

TPE can be ground up and turned into 3D printing filament and thereby reused.

GAS SPRINGS contain gas under pressure and are to be handled as dangerous goods and delivered to a professional recycling company.

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SIMPLE SOLUTIONS AND
ENABLE JOY OF LIFE

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