The maintenance free CLEANBELT® cleaning system has been specifically developed for rolled baking oven belts made by Steinhaus.

Mode of Operation

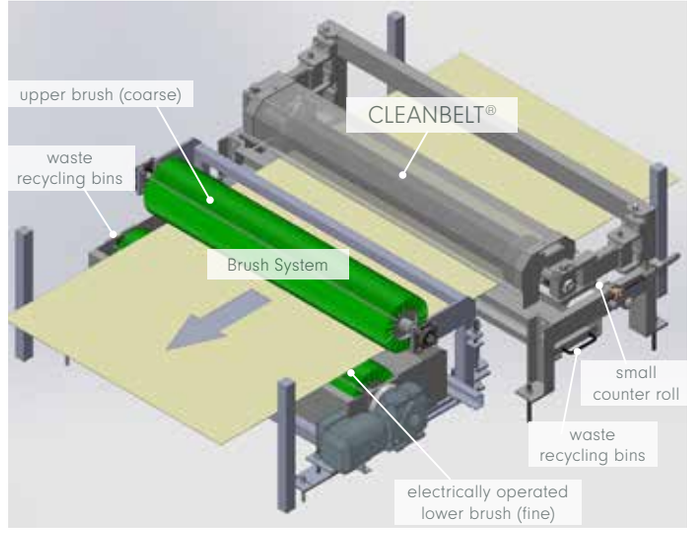
The CLEANBELT® cylinder consists of individually mounted sprocket discs combined with intermediate distance rings, which are tuned to the individual mesh structure of each belt. So they work themselves exactly into the mesh opening. The sprocket discs can break up the (cake of) dirt, stuck to the belt's surface and/or in the belt meshes. So that the brush system, following the CLEANBELT®, can finally remove it.

For each free running and unguided belt there are certain movements in the belt's tracking. Consequently they appear, although to a lesser degree, also with our rolled baking oven belts. To equal these running variations the CLEANBELT® system is freely supported on a stand-alone frame structure and can follow independently the belts (slight) movements to left and right.

Our experiences from the field have shown that for many brush systems in operation there is a big potential for improvement, too. Gladly we could offer some assistance in this respect in order to achieve in combination with CLEANBELT® the best possible cleaning result for your belt.

CLEANBELT®

Our Concept of a Good Belt Cleaning



Advantages

- The system works continuously and mechanically nearly maintenance free (only regular cleaning by compressed air or jet water)
- Additional manual cleaning of the baking oven belt is either no more necessary or reduced to a minimum at much greater intervals
- Improved oven's heat management at reduced costs
- Considerably reduced energy consumption for heating
- Longer operational life time, since no more belt changes because of dirt
- Suitable for several belt life time cycles
- Easy installation since no electric components involved
- Investment pays off in a short time

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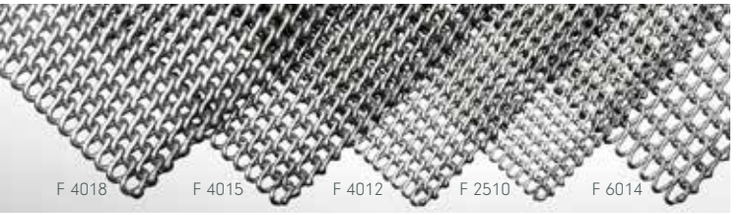
Rolled Baking Oven Belts
(aka Z-Belts)

CLEANBELT®

STEINHAUS

Rolled Baking Oven Belts



Steinhaus rolled baking oven belts, also known as Z-Belts, are made of round wire spirals with very narrow and equal tolerances. The wire fabric is rolled flat first with greatest care before the belt is cut to width and the edges are spot welded. With this a very smooth, equal and angular belt structure is achieved with the required stability whilst retaining sufficient flexibility.

For producing baked durables of all kinds of hard and soft biscuits in particular, rolled baking oven belts are preferred to be used instead of solid steel belts or heavy weight multiple spiral belts, if the dough does not require a completely impervious belt. Compared with other wire mesh belts, rolled baking oven belts have several advantages of being thinner and leighter in weight plus they have an even and smooth surface.

So the baked goods rest on a flat surface with less risk of breakage and packing is facilitated, since the bottom side of the product is smooth.

Compared with solid steel or multiple spiral belts our rolled baking oven belts allow gases in the product to escape also downward during the baking process, so that no unwanted bubbles will appear at the reverse side of the product. Moreover, the bottom side shows an appealing characteristic pattern.

This excellent air permeability for our belts ensures perfect heat circulation, more economic heat management of the oven, save a lot of energy and baking processes can often be made faster.

Rolled Baking Oven Belts

Type F 4012

is the most frequently used standard belt type.
A good ratio between wire diameter and mesh opening allow an efficient heat management with good baking results.
The F4012 allows greatest flexibility both for band width and oven length.

Type F 4015

is a reinforced belt type. With nearly the same mesh opening like the F4012 but stronger wires for higher mechanical impacts the operational life time can be improved.
Because of the higher weight, increased energy needs and requirements to the oven drive and construction have to be considered.

Type F 4018

this new belt type is "double reinforced" with the biggest wire diameter possible, thus increasing the belt's process heat storage potential, asked for in faster running tunnel ovens with higher baking temperatures or for some cracker products.
With its high weight, the customer can take advantage of improved air circulation compared with multiple spiral belts (~CB5) and their often (unnecessary) heavy weight.

Type F 6014

the belt with the highest ratio between wire diameter and mesh opening is said to be the easiest to clean. So it is good for baking products containing grease, fat and suger.
It has the same weight than the standard F4012. So no change in heat management of the oven is necessary, when clients want to use the F6014 for cleaning reasons, if the consistence of the dough allows this.

Type F 2510

is the belt with the smallest mesh opening and thinnest wire, thus having the lowest energy demand.
With its fine meshstructure it might be an alternative for solid steel belts, having the advantage of better heat circulation and easier maintenance.
Since sensitive in mesh structure and at the edges, this belt is suitable for smaller ovens with shorter lengths.

Type	F 4012	F 4015	F 4018	F 6014	F 2510
Comparable with	Z47	Z47R	Z47RR	Z48	Z28
Wire diameter	1,2 mm	1,5 mm	1,8 mm	1,4 mm	1,0 mm
Original mesh opening	4,0 mm	4,0 mm	4,0 mm	6,0 mm	2,5 mm
Open area	~ 32,5 %	~ 27,5 %	~ 22,0 %	~ 39,0 %	~ 30,5 %
Belt thickness	~ 2,1 mm	~ 2,7 mm	~ 3,4 mm	~ 2,5 mm	~ 1,8 mm
Spiral pitch	~ 3,9 mm	~ 4,5 mm	~ 5,2 mm	~ 5,0 mm	~ 3,5 mm
Weight per qm	~ 7,4 kg	~ 10,0 kg	~ 14,5 kg	~ 7,2 kg	~ 6,3 kg
No. of meshes over 1 m width	~ 267	~ 215	~ 199	~ 200	~ 298
Maximum belt width	1800 mm	1900 mm	1600 mm	1600 mm	1500 mm

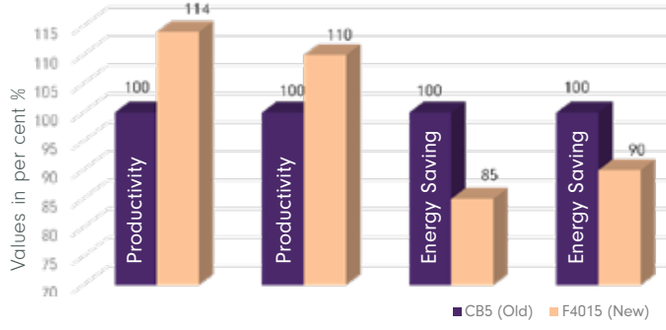
Case Study from the Field

From CB5 to F4015 (Z47R)

Soft Fact Comparison between these 2 Belt Types:

	CB5		F4015 (Z47R)
-	High weight	+	Low weight
-	Very dense structure	+	Open mesh structure
-	High belt tensioning	+	Low belt tensioning
-	Small open mesh area	+	Big open mesh area
-	Connecting the belt tricky	+	Connecting the belt easy
-	with several crossbars	+	with just 2 spirals

Productivity & Energy Saving



Client's Summing up of Advantages of F4015 (~Z47R)

- Minute corrections to oven programme only
- Improved heat, air & gas circulation because of belt's open weave
- Better convection baking with less necessities to adjust fans & dampers
- Equal colouring of baked product along the belt width
- No more scorching of product's edges
- Less time for heating up or cooling down belt & oven
- Average oven temperature reduction by 43° to 65° Celsius
- Belt tensioning down from >4 bars to >3 bars
- Proven increase of production