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Version 1.6

TECHNICAL SPECIFICATION WE MAIL Sweden



Document's version history

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10/17/2017	1.2	Correction of various errors
04/03/2018	1.3	Correction of various errors
06/05/2019	1.4	New image and corrected text on page 35
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1. Agreement and integration of customer

1. Agree on service and options in Customer Service Agreement, Price Annex and Customer Assignment
2. Integrate customer
 - a. Set up communication
 - b. Map the customer's file formats
 - c. Set up templates and rules for documents
 - d. Set up selected distribution options
3. Test the flow
4. Customer confirms Customer Assignment

2. Communication paths

Strålfors offers a uniform electronic interface for sharing data between different parties and systems. The production system is monitored 24 hours a day, all year long. The customer can choose from the following protocols and network standards, among others:

- FTP (via the internet)
- SFTP
- API
- VPN

3. File submission

The normal submission time for a data file is before 09:00, the same working day as submission to distribution. If a file is received later than agreed, this may mean that the file will be processed the following day. The transfer must be completed before the agreed time, i.e. if the transfer begins at 08:59 and is completed at 09:12 there is a risk that the file will be processed the following day.

4. Back-up and logging

Files that arrive at Strålfors are backed up on receipt and saved on disk for 30 days. Receipt and message processing performed by Strålfors for the messages that pass through the service are logged continuously. Logs are saved in the system for one month, after which they are accessible via back-up for 6 months.

5. File formats

The We Mail service uses a structured file format. There must always be a defined file specification that describes the file's appearance and information content.

5.1. Structured format

The input files must come in a structured format such as XML or CSV. Formats such as PDF or AFP can be used as an input format for the We Mail service. These must, however, be supplemented by some metadata so that PostNord Strålfors can process the printouts correctly. It is also not possible to use anything other than structured files as an input format for the We Mail service if you are intending to use other services in our Omnichannel offering such as e-Invoice or Digital Mailboxes.

(i) AFP

All AFP documents require TLE records, the mandatory content of which depends on the service selected.

The section entitled AFP describes how an AFP should be structured and the limitations on the layout to be compatible with PostNord Strålfors' production system. More information about the file format is available in the relevant chapter.

(ii) PDF

All AFP documents require metainformation, the mandatory content of which depends on the service selected. The section entitled PDF describes how a PDF should be structured and the limitations on the layout to be compatible with Strålfors' production system. More information about the file format is available in the relevant chapter.

(iii) Limitations

Specification	Maximum number
Maximum file size	The maximum manageable file size depends on the input file format. Examples of limitations: XML=1 Gbyte, CSV=1 Gbyte Larger file sizes will require investigation, which means that agreement must be reached with Strålfors.
Maximum number of printed pages in a file	50,000 printed pages. A larger quantity will require investigation, which means that agreement is required.

6. Distribution methods

The following distribution methods can be selected for the service.

- We Mail Priority We Mail Economy
- We Mail Direct Marketing
- We Mail Economy
- We Mail Utrikes Priority

7. Customer integration

The customer will be allocated a resource who integrates the We Mail service as agreed in the customer assignment.

To make dialog easier for both the customer and Strålfors it is necessary for the customer to have a designated contact person who can be contacted regarding questions and tests.

Integration includes:

- Setting up communication (FTP)
- Mapping out the customer's file formats
- Setting up templates and rules for documents
- Setting up selected distribution options
- Testing the flow
- Putting the approved assignment into production

8. Mapping the customer's file formats

The customer must provide a specification of the file format to be used for submission to PostNord Strålfors and provide the information required to enable Strålfors to process the content of the file and deliver the messages to the correct recipients under the customer agreement.

Mapping is done to insert the information (data) in a presentation template. The customer is responsible for ensuring that the data file contains the required information for the service selected. The customer is responsible for ensuring that such information complies with current legislation, e.g. the General Data Protection Regulation (GDPR).

8.1. Creating presentation templates

The information mapped must then be inserted into a presentation template. The customer must provide physical or electronic sample layouts of the presentation templates. The presentation template describes a set of rules for content and design that governs what a message looks like when it reaches the recipient.

8.2. Testing the file format and presentation template

The customer provides a test file representing the presentation templates that will be used in the mailing. When the customer's file has been mapped and the presentation template has been created, this is agreed with the customer and a PDF is sent to the customer for approval.

9. Other message channels

The following data must be available in the file so that messages can be distributed on other channels.

Minimum data for multichannel							
Channel/Data	Print	eBoks	Kivra	Kivra Invoice	Digital boxes	eInvoice	eMail
Personal ID/corporate ID no. including century digit			x	x	x		
Personal ID/customer/corporate ID no.		x				x	
Due date				x		x	
Bankgiro or plusgiro				x		x	
Amount due				x		x	
PG/BG account number				x		x	
OCR reference				x		x	
Debit/credit or reminder				x		x	
Direct debit flag				x		x	
Invoice number						x	
Invoice date						x	
Customer number						x	
Name	x					x	x
Street address	x					x	
Country code	x					x	
Postcode	x					x	
Town	x					x	
Email address							x

10. Descriptive material

The following pages provide an example of what an order looks like and, in this case, are based on XML. However, a comma-separated file or some other structured format could just as easily have been used.

What is important is for the order to have the following content:

- Test file
- File specification/field description
- Special instructions
- Layout with instructions for positioning of data

Make sure that the field names match in all specifications so that a correct derivation of data can be made without any problems.

11. Test file

The test file below is an example of an extract from an XML file. Each file commences with an

```
<?xml  
version=  
"1.0"  
encoding  
="ISO-  
8859-  
1"?>
```

Example

```
<?xml version="1.0" encoding="iso-8859-1" ?>  
- <letter>  
<docname>INVOICE</docname>  
<invno>123456</invno>  
<duedate>2007-06-10</duedate>  
<custno>345678</custno>  
<yourref>Johan Johansson</yourref>  
<sndname>COMPANY</sndname>  
<sndadd>Hemvägen 2</sndadd>  
<sndpc>441 58</sndpc>  
<sndtwn>ALINGSÅS</sndtwn>  
<invrecname>Recipient</invrecname>  
<invadd>Byvägen 2</invadd>  
<invpc>441 57</invpc>  
<invtwn>ALINGSÅS</invtwn>  
<ourref>Anna Andersson</ourref>  
<tel>0322-669500</tel>  
<email>customer@company.se</email>  
<articlelines>  
<article>  
<articleno>666666</articleno>  
<quantity>777777</quantity>  
<unitprc>100.56</unitprc>  
<linesum>10000.66</linesum>
```

```

</article>
</articlelines>
<total>10000.77</total>
<rndng>0.77</rndng>
<yrcrdt>2007-10-11</yrcrdt>
<message>Thank you for your order and welcome back</message>
</letter>

```

12. File specification/field description

A file specification is required to show what each field means in the test file. It should also describe fonts, any formatting and show examples of data.

Field name	Description	Font	Formatting	Sample data
<letter>	Starts a new letter			
<docname>	Heading for the	Arial N 18		INVOICE
<invno>	Invoice number	Arial N 10	NNNNNN	123456
<duedate>	Due date of invoice	Arial N 10	YY-MM-DD	2009-04-30
<custno>	Customer number	Arial N 10	NNNNNN	345678
<yourref>	Your reference	Arial N 10		Johan
<sndname>	Name of sender	Arial B 12		COMPANY
<sndadd>	Sender's address	Arial B 12		Hemvägen 2
<sndpc>	Sender's postcode	Arial B 12	NNN NN	441 58
<sndtwn>	Sender's postal	Arial B 12		ALINGSÅS
<invrecname>	Name of invoice recipient	Arial N 10		Recipient
<invadd>	Invoice address	Arial N 10		Byvägen 2
<invpc>	Invoice postcode	Arial N 10	NNN NN	441 57
<invtwn>	Invoice postal town	Arial N 10		ALINGSÅS
<ourref>	Our reference	Arial N 10		Anna
<tel>	Our phone number	Arial N 10		0322-669500
<fax>	Our fax number	Arial N 10		0322-669500
<email>	Our email address	Arial N 10		customer@co
<articlelines>	Includes article			
<article>	Begins a new			
<articleno>	Article number	Arial N 8	NNNNNN	666666
<sequence>	Sequence	Arial N 8	NN	10
<quantity>	Quantity	Arial N 8	NNNNNN	777777
<unitprc>	Unit price	Arial N 8	NNN.NN	100.55
<linesum>	Line sum	Arial N 8	NNNN.NN	1000.66
<total>	Invoice total	Arial B 12	NNNN.NN	1000.77
<rndng>	Rounding	Arial B 12	N.NN	0.77
<yourcrdt>	Your credit	Arial B 12	YYYY-MM-DD	2009-04-30
<message>	Message	Arial B 10		

13. Special instructions for templates

An example of a requirements specification in which the customer describes rules and logic to apply to the integration.

- If the number of article lines exceeds the space available on a page, the remaining pages only need to contain:
article lines (<LINESUM>, <UNITPRC>, <SEQUENCE>, <QUANTITY> and <ARTICLENO>) and their headings, <INVNO> and the page footer
- The fields <LINESUM>, <UNITPRC>, <SEQUENCE>, <QUANTITY> and <TOTAL> must be right aligned.
- If <YOURCRDT> is empty, the text above ("Your credit:") must not be printed
- If "directdebit" is shown in a field in the file, a paying-in slip must not be included with the invoice.

15. AFP

15.1. General

For a customer to be able to use AFP files for the We Mail service, the customer's data must be structured according to certain guidelines.

15.2. File structure

The file can be regarded as being made up of different components. The content of the various components is described below. See below for a schematic description of the file structure.

15.3. NOP (start record)

The input data must start with an NOP record with the following structure so that the system can identify the input data and make sure it is correct.

Field name	Length	Meaning, value
020	3	Must always contain the value "020". Defines the start of a logical file.
Production type	5	The literal EPS if the assignment is to be run in the live (production) environment. EPS-T if the assignment is to be run in the test environment. Left-aligned and padded with zeros.
Assignment ID	8	Assignment name, left-aligned and padded with zeros. The assignment name indicates which unique procedures are to be used for this particular file. The assignment ID is obtained from Strålfors
Customer reference	50	Any text string.
Delivery date	8	There is an option to add the date when letters are to be passed on to Distribution. This value then takes precedence over the date calculated by the system. The date must be in the format yyyymmdd.

15.4. BRG-ERG

AFP resources must be contained in BRG-ERG records. The AFP resources appear first in the input data, after NOP.

15.5. Fonts

All fonts must be "Raster fonts", i.e. not outline fonts.

15.6. OMR

Strålfors adds an OMR code to the file created from the TLE record. This means that the customer must remove any of their own OMR codes in the file. The OMR code generates small lines on the printed material.

These lines indicate how each sheet should be handled by the envelope insertion machine. The customer must also ensure that nothing is printed for 10 mm on the far left and in the main margin to leave room for the OMR code.

15.7. BNG-TLE

One BNG record and one TLE record are required so that the system can distinguish between letters, for OMR marking (adding an enveloping mark) and for sorting (by postcode). In other words, documents must be defined with a "Page Group". TLE record containing postcode and ID immediately after all BNG

16. BPG-EPG, IMM

The actual print page must be between the BPG and EPG records. In files to be printed in duplex (double-sided print pages) all "front page" BPGs (Begin page) must be preceded by an IMM (Invoke Medium Map).

Field name	Length	Meaning, value
Index	11	POSTENEBREV
Country code	2	Alphanumerical, for example SE. If there is no country code, these records must be padded with spaces.
Postcode (postal)	5	Numerical. (Foreign postcodes with alphanumerical characters must be padded with zeros)
LETTER ID	15	Alphanumerical, left-aligned and padded with spaces.

The LETTER ID must be unique within the various TLEs.

17. PDF

17.1. Technical specifications

In order for Strålfors to accept PDF files as an input format for the We Mail service, certain technical requirements must be met.

17.2. Metadata

Certain metadata (data about data) must be included in each PDF and on an exact x/y coordinate calculated from the upper left corner of the A4 sheet. When the file is processed, the metadata is removed from the PDF file and will not be included in the printed letter.

17.3. File sorting information

Information must be written using the Arial font, size 8 points.

- Post code, format: NNNNN, x-pos: 2 mm y-pos: 2 mm (a space can also be included in the postcode, Strålfors will remove it). Foreign postcodes with alphanumerical characters must be padded with zeros.
- Country code, format: XX (ISO standard 3166), x-pos: 22 mm y-pos: 2 mm.
- First page trigger, format: "Page 1" (a one, to denote the first page in a letter), x-pos: 42 mm y-pos: 2 mm. The trigger must be included in any following pages.

17.4. Fonts

Fonts used in a PDF must be in TrueType format. All fonts that occur in the PDF files must be included in the test file for checking. Strålfors has a standard set of fonts. If other fonts are used, a customer-specific implementation of the PDF is required, in which the customer provides the font. Make sure you send the ENTIRE font.

When creating a PDF document, please bear in mind the following regarding fonts:

- Use embedded fonts in the document. If the PDF contains many different fonts, processing of the file may be resource-intensive at Strålfors, resulting in a longer processing time.

(iv) *Tip:*

If you look at the properties of the PDF files (File/Properties) the fonts in the document are listed under the Fonts tab.

If the fonts do not have precisely the same name as in Windows e.g. "TTE48620t00", the document will not have the intended appearance, even if it basically Arial. For the best results, use the original names of the fonts used.

17.5. Metadata in a separate file

An alternative to printing the metadata in the PDF is to send the metadata in a separate data file. The format of the separate file can be XML or another structured data format. The technology is also based on the PDFs to be printed being divided up so that each letter represents a PDF. The PDFs are then zipped together with the metadata file before being sent over to PostNord Strålfors.

The file names of the PDFs must be included in the metadata file so that the system can see which document belongs to which metadata.

Example of a metadata file:

```
<file>
  <filename>Faktura_1117576_to_1840.pdf</filename>
  <Kund_postnummer>517 92</Kund_postnummer>
  <Kund_landskod/>
</file>
<file>
  <filename>Faktura_1117577_to_1853.pdf</filename>
  <Kund_postnummer/>
  <Kund_landskod>DK</Kund_landskod>
</file>
<file>
  <filename>Faktura_1117578_to_1886.pdf</filename>
  <Kund_postnummer>517 91</Kund_postnummer>
  <Kund_landskod/>
</file>
<file>
  <filename>Faktura_1117579_to_1916.pdf</filename>
  <Kund_postnummer/>
  <Kund_landskod>FI</Kund_landskod>
</file>
<file>
  <filename>Faktura_1117580_to_1919.pdf</filename>
  <Kund_postnummer>517 91</Kund_postnummer>
  <Kund_landskod/>
</file>
```

17.6. Test file

There are many variations in PDF files and software for their production on the market. To avoid problems in the production flow, these must be sent to Strålfors as test files before commissioning.

Without an approved test file, Strålfors cannot promise any implementation of the customer's PDF.

17.7. Layout

For PDFs as an input format for the We Mail service, the same margins must be complied with as for other input formats for the We Mail service. It is important that areas for OMR (enveloping code) are left empty, that positions for the recipient and sender addresses are complied with, and that A4 portrait size is used in the PDF file layout

17.8. Size and structure of the PDF file

PDF is the most suitable input format for fairly small volumes. There is no exact maximum number. This must be tested on a case-by-case basis, although a rough guide would be a maximum of 10,000 pages per PDF file. The size of the PDF file in kb should also be minimized as far as possible so as not to affect the ability to process the files. If the files prove to be extremely large, Strålfors may need to have the files submitted earlier than would otherwise have been the case. Inserted images have a significant effect on the size (kb) of the file, therefore it is important to follow the recommendations in the "Images and logos" section. The standard procedure is for one PDF containing all letters to be submitted. The PDFs should ideally be saved in PDF version 1.3 or max. 1.4. Even though later PDF versions are supported, these are not optimized for print production, only for screen display.

PDF documents that use the following functions cannot be processed by the service:

- Encrypted files, or files requiring a certificate
- Password protected files
- PDF Form
- Linearized (Optimized file for quick web viewing)
- Embedded font that no longer has its ordinary font name

x = 18mm
y = 20.5 mm
width = 62 mm
height = 18 mm

x = 111 mm
y = 39 mm
width = 66 mm
height = 18 mm

SRM

- The outer window corresponds to the surface of the print that may be visible through the window space on the envelope. Sensitive information such as account number, invoice number etc. should not be placed here.
- The sender box (dotted line) corresponds to the size of the window on the envelope.
- The inner window corresponds to what is always visible through the window of the envelope.
- The SRM code is used to ensure that the letter is produced correctly.
- In addition, there must be a margin of 12 mm at the top and the left edge of the paper that PostNord Strålfors must have for their mailing codes.

If deviations are made from this template, it must be tested to ensure the correct placing and quality.

18. Images and logos

All images and logos that occur in the PDF files must be included in the test file (see Test file) for PostNord Strålfors to guarantee the printout quality.

The image resolution should be 300 dpi and in .bmp, .tif, .gif or .jpg format. To ensure optimum black and white printout quality, 1-bit indexed Black and White images should be used with a maximum resolution of 300 dpi. This means that the image is in black and white, without shading or grayscale.

Place the image in the desired position and make sure that it is saved with the document, not linked in. There is a "reserved" space for the logo to the left of the sender's address. If it is placed there, it will be seen in the envelope window. For the best results, use a black and white logo (not grayscale) for letters to be printed in black and white and a color logo for letters to be printed in color.

- Do not write the text in white on a black background if the letter is to be printed in black and white.
- Images are printed on the sheet in the order in which they have been added to the PDF. This means that if images have been added one after the other and one of them is "on top of" another one, they will be printed out after each other in the order in which they were added.
- Images must not be transparent (applies to both entire images and parts of images).
- Avoid placing images on top of each other.
- Do not add text to the images

PDF documents that use the following functions for color and images cannot be processed by the service:

- CIE-based color spaces
- Special color spaces
- Overprint control (printing several different colors to produce one color)
- Antialias (blurs the edges of images)
- Patterns
- Transformations

Text that must be interpreted from right to left, e.g. Arabic and Hebrew, does not work. Create an image of the text and include that instead.

19. Bankgiro and Plusgiro

If the customer wishes to use Bankgiro (BG) or Plusgiro (PG) in letters, Strålfors' paying-in slip templates must be used. This means that the area for the paying-in slip is left blank and additional metadata is included, which Strålfors places in the designated place. The metadata for paying-in slips must be arranged in three strands, in which the metadata is separated by semicolons (;). Please note the spelling on, for example, PGB slips.

(v) Metadata 1

Font: Arial Size 8

x-pos: 2 mm y-pos: 284 mm

Example:

PGB slip;12345-6;12345,00;Mats Mottagare AB

- Giro type, values: PGB slip, PGC slip, BGB slip, BGC slip.
- Giro number (max. 15 characters)
- Total, format: NNN.NN
- Payee (name only) (max. 20 characters)

(vi) Metadata 2

Font: Arial Size 8

x-pos: 2 mm y-pos: 288 mm

Example:

Astrid Avsändare;c/o

Ansändarsson;Avsändaregatan 3;123 45

Avsändarstaden

- Sender's name (max. 30 characters)
- Sender's address 1 (max. 25 characters)
- Sender's address 2 (max. 25 characters)
- Sender's postal address (max. 25 characters)

(vii) Metadata 3

Font: Arial Size 8

x-pos: 2 mm y-pos: 292 mm

Example:

123456789;Reference text 1;Reference text 2;reference text 3

- OCR number (for PGC and BGC slips) (max. 25 characters, with padding using blanks controlled by zeros, if necessary).
- Reference text 1 (max. 25 characters)
- Reference text 2 (max. 25 characters)
- Reference text 3 (max. 25 characters)

20. Paper and envelope

There is one standard paper and one standard envelope for We Mail. Standard paper: A4, 90 gsm, white, non-punched.

Standard envelope: C5, white, two windows

21. Perforation

The option of getting the sheets of paper perforated is available as standard in the We Mail service. This is a static perforation, which means that all sheets in the setup are perforated.

There is a ready instruction for AFP files. For other file formats, the function is set up in consultation with a Strålfors integrator. All perforation is done 99 mm from the bottom edge of the sheet.

22. Envelope layout

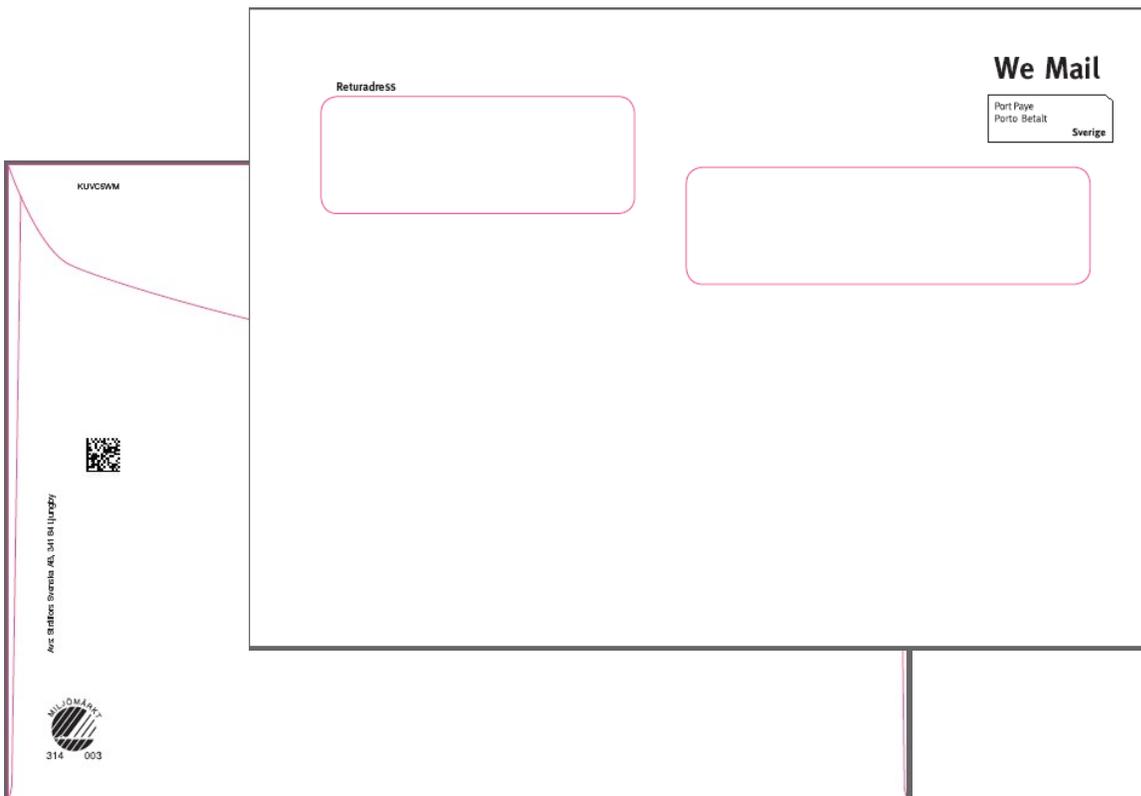
22.1. Sender or return address

It is important for both the return address and the sender's address to be visible on consignments for the We Mail service. The return address is shown on the rear of the envelope as follows:

Strålfors Svenska AB 341 84 Ljungby.

The return address must be visible in the left-hand window of the letter. The text "Return address" appears above this window.

Example:



23. Print production

Strålfors checks that the file complies with the agreed structure.

The documents are then divided according to size, with documents containing up to 6 sheets being inserted in C5 envelopes. Print production takes place at a resolution of up to 600 dpi.

Strålfors is responsible for adding the insertion mark to the print-ready file.

24. Confidentiality

All information transferred in data files to Strålfors is treated as confidential. Only authorized personnel have access to the premises where the physical letters are produced. All concerned are bound by confidentiality agreements.

25. Color

Strålfors always prints in color using Business Color, which is produced on high-speed printers.

The appendix entitled Instructions Color describes which resources are required to enable color production. The document is updated on an ongoing basis. The latest version can be downloaded as a PDF from Strålfors' website at: www.stralfors.se/villkor (only in Swedish)

26. Reports

26.1. Track & Trace

Track & Trace is a web interface application which presents the actual status of customer order files and documents handled by PostNord Strålfors. The service also gives delivery confirmation in all output channels. All files processed via our omnichannel platform are visible in Track & Trace. Track & Trace can be used to search for customer files or single documents to see details of processing time stamps and delivery.

For more information regarding Track & Trace, speak to your PostNord Strålfors contact.

27. Contact channels

Customer comments and complaints should be sent to Strålfors using the web form available at www.stralfors.se/reklamationer (only in Swedish).

Questions for customer support are handled at:

Tel: 010 - 331 25 25

E-post: customer.service@stralfors.se