

Signed Documents

More and more documents in general business connections are sent using email and attached documents. Transport is handled by numerous stations, each of them having access to the content of your correspondence, also with the possibility to scan and modify it. This all happens in background without the ability for you to recognize changes made while the documents are transferred to you.

Agrolab GmbH will start now to digitally sign their documents issued. This procedure will be introduced at all Agrolab locations step by step. The digital signature will ensure that changes made after signing will be readily identifiable for the intended reader.

Digitally signing has the advantage that changes can be made visible in a document sent via email. Customer is now able to check the document for integrity. The digital signature is not visible on the document. The document layout has not been changed and is as usual.

The document can be signed as often as you like by yourself if you add content or change layout on your needs. The changes will be verified with the new signature for the changed parts. All previous versions will be saved and can be retrieved anytime later. Agrolab also uses this possibility to sign documents at internal steps of production, e.g. sign at release time of document by responsible CRM.

The following chapters will describe how to open a signed document in Acrobat Reader Version 10.1.4.0 and how to check it for completeness and integrity.

In chapter 4 we introduce the new way of signing documents using certificate signatures and visible seals, indicating the signing status. These reports have also a handwritten signature of the CRM. So the document has the same appearance both in digital and printed form.

This processing will ensure validity, integrity, authenticity and completeness during the lifetime of the document.

This feature is available for premium customers only who get no postal mail with reports in printed form.

1. Installation of the Software Product

Agrolab recommends Acrobat Reader in the most recent version. All other PDF-viewer or PDF-processing software might be used as well, if it is capable of the signature feature. Agrolab currently uses PDF-Version 1.4 format which is first readable by Acrobat Reader 5.

You can find the most recent version for download under <http://www.adobe.com/de/products/reader/>. The program is actually free of charge. Please follow the installation instructions of the manufacturer.

2. Installation of the Certificate

To check the signed documents you first have to download the current valid certificate from Agrolab which has been used for signing the document. The certificate will be provided as download on our website www.agrolab.de, in section certificates.

First step is to download our certificate from our website. Please choose the most recent certificate. For checking of older documents, signed with already expired certificate you can download these also from there. Please load the certificate matching the period of document creation date.

Please save the certificate locally on your computer where you will find it again in a further installation step.

Import the certificate in Adobe Acrobat Reader (Vers. 10.1.4) as described below:

1. Open Acrobat Reader and select „Manage Trusted Identities“ (see *Fig. 1: Start*)

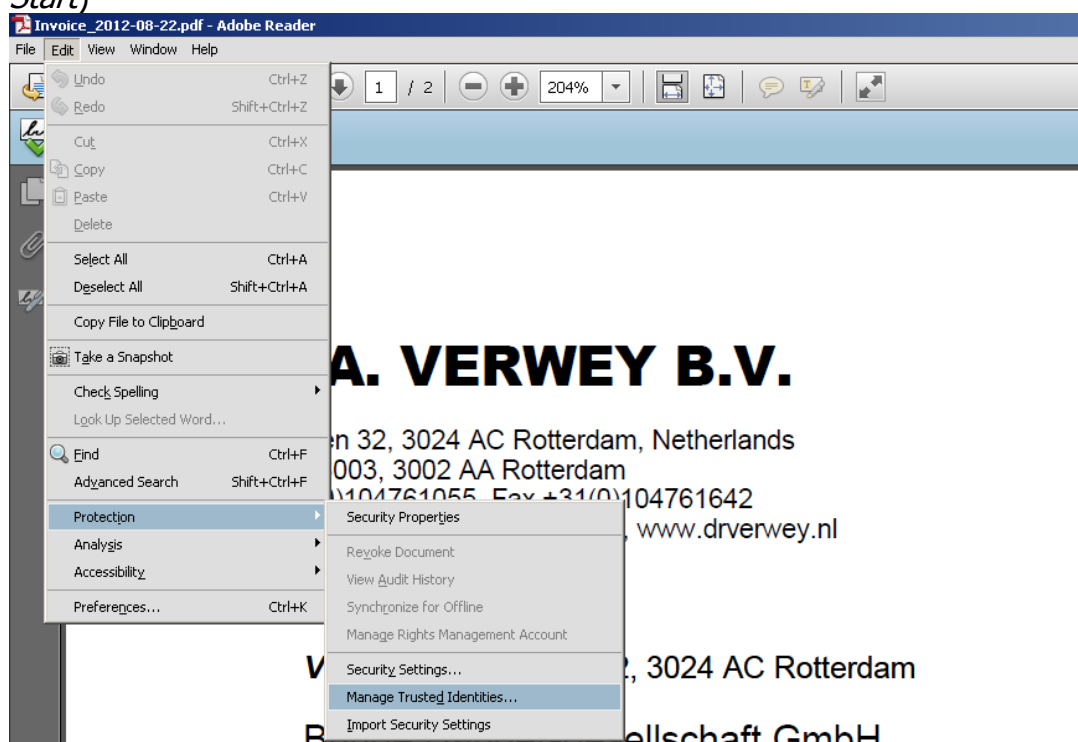


Fig. 1: Start

2. add a new contact (see **Fig. 2: add contact**)

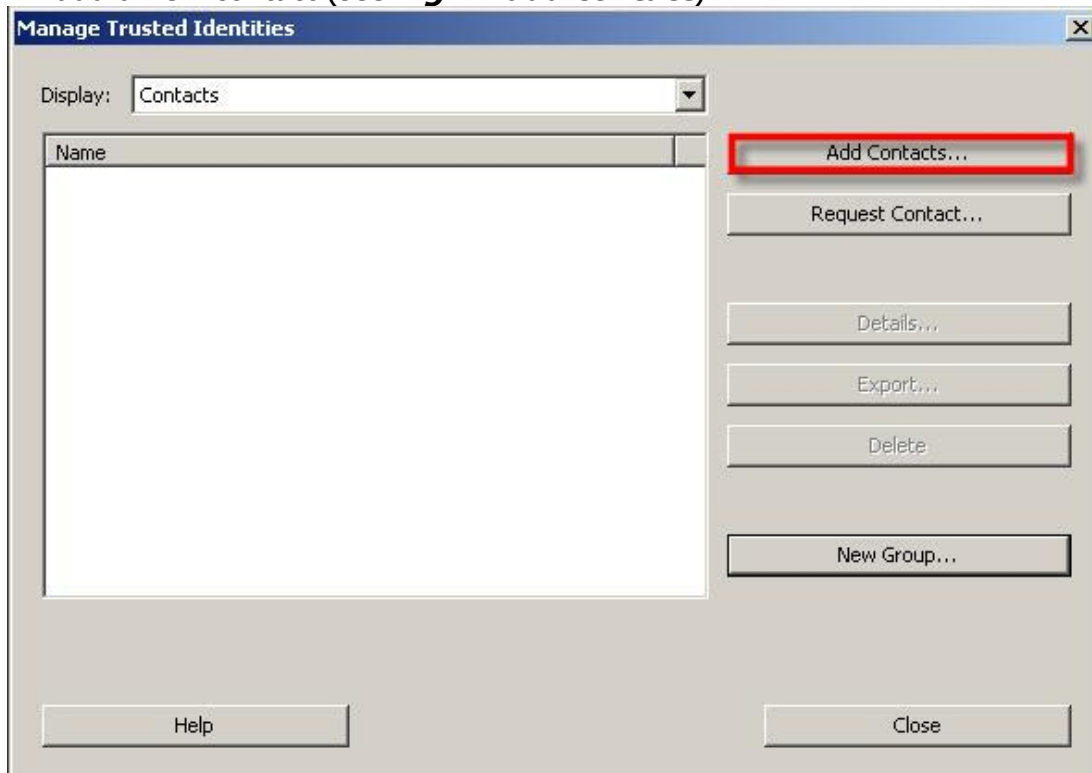


Fig. 2: add contact

3. import the certificate as new contact. Select "browse" to find our certificate on your Filesystem (see **Fig. 3: import contact**)

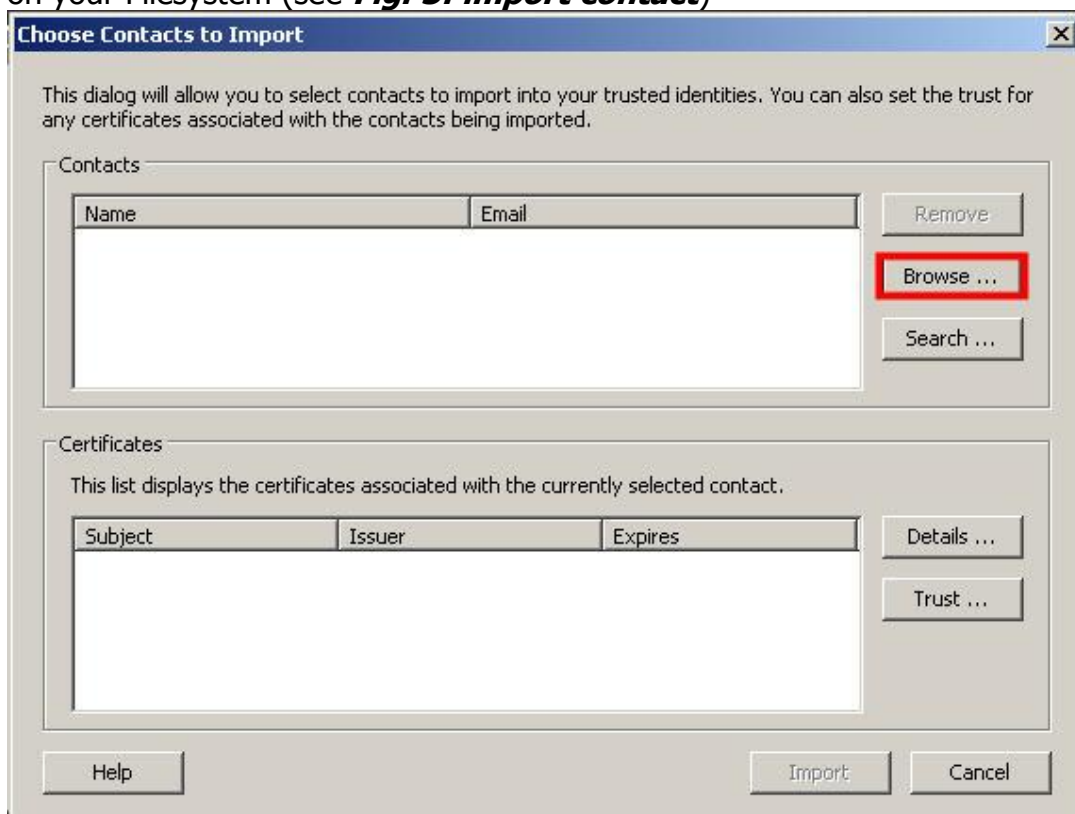


Fig. 3: import contact

4. select the certificate file and press „Open“ (see Fig. 4: File Selection Dialog)

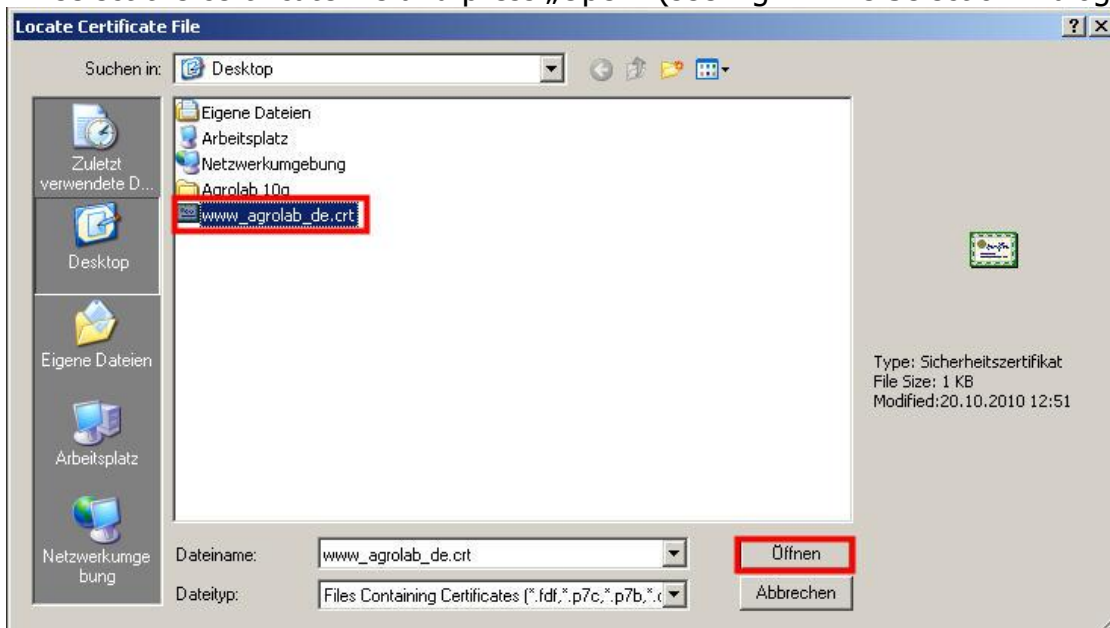


Fig. 4: File Selection Dialog

5. select the contacts name in the upper box, select the certificate in the lower box and start by pressing "Trust"-button (see Fig 5: selecting contact)

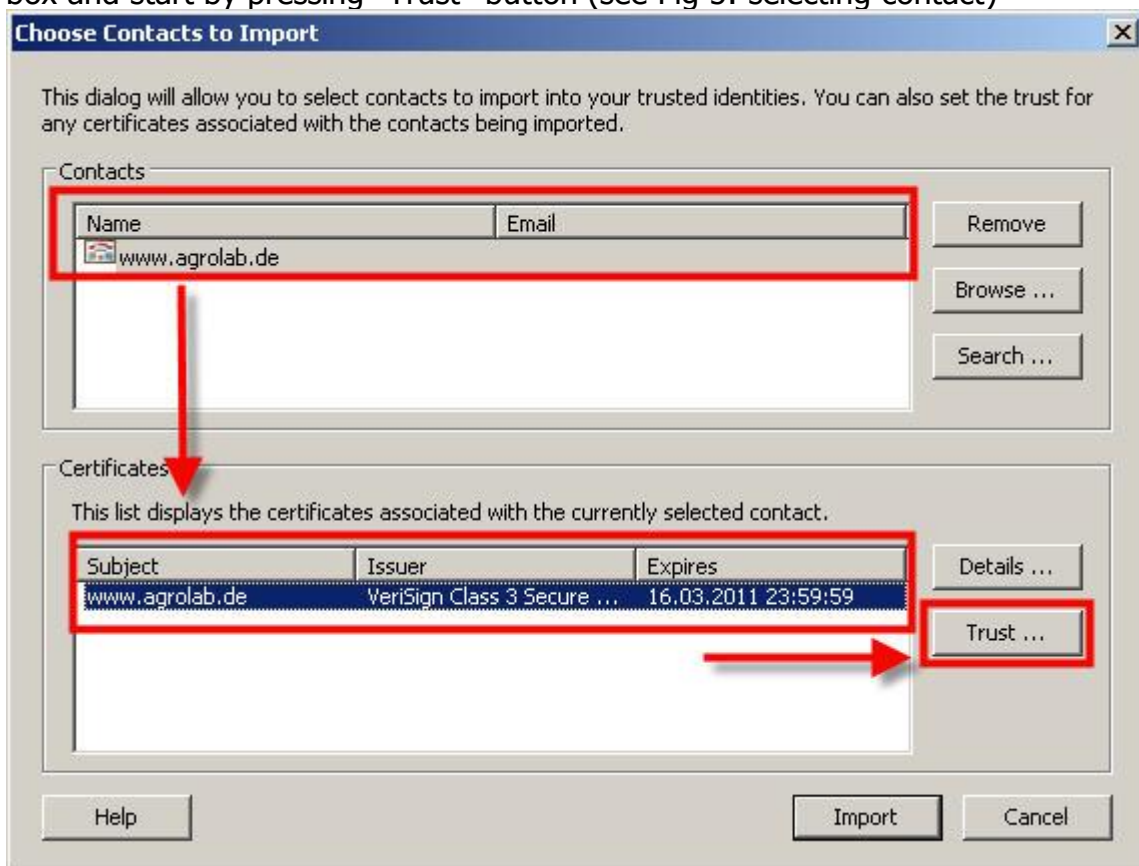


Fig 5: selecting contact

6. select the indicated check boxes to trust Agrolab-signed documents (see Fig. 6: determine trusted settings)

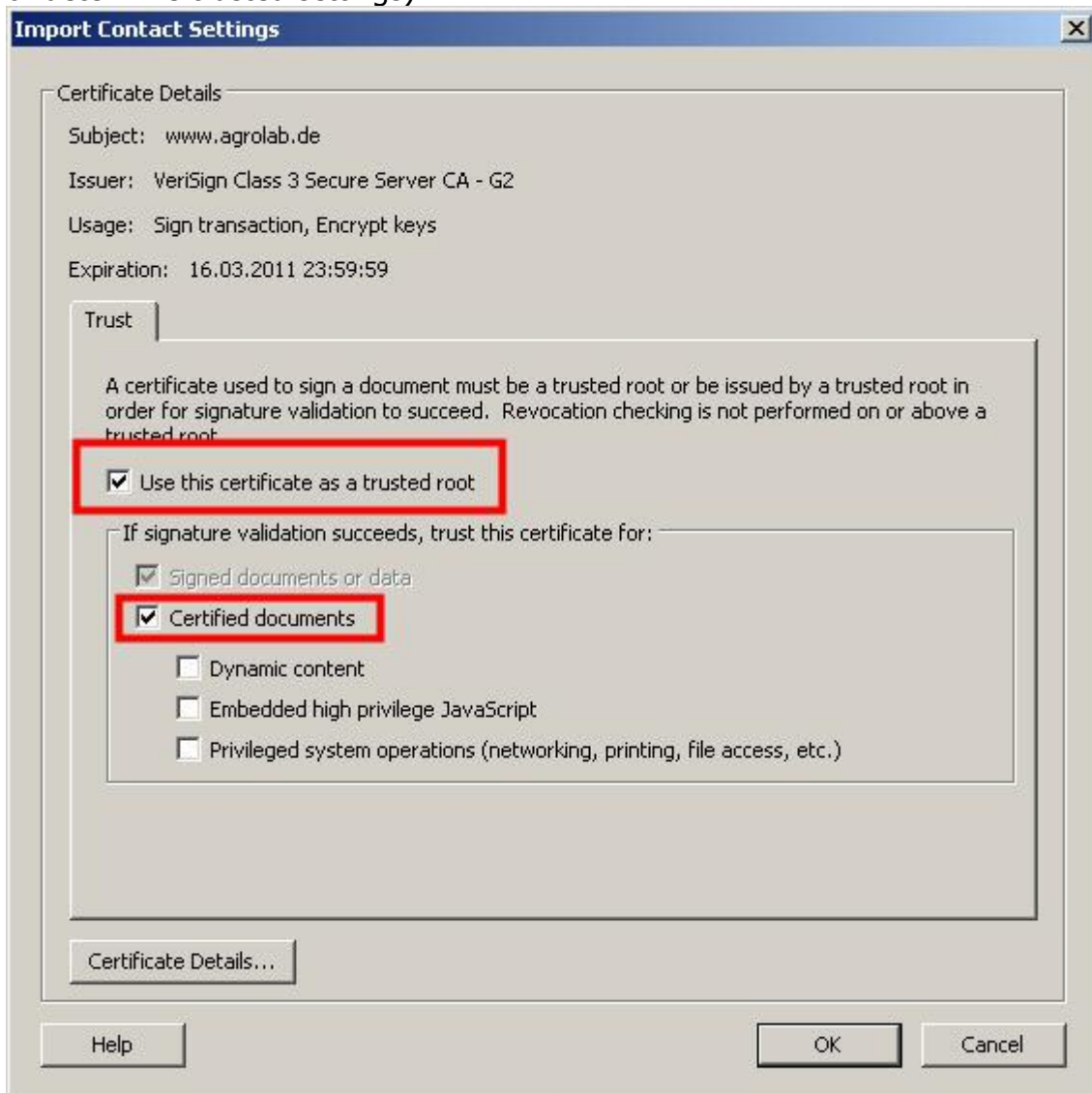


Fig. 6: determine trusted settings

7. Import the certificate now (see *Fig. 7: Import*)

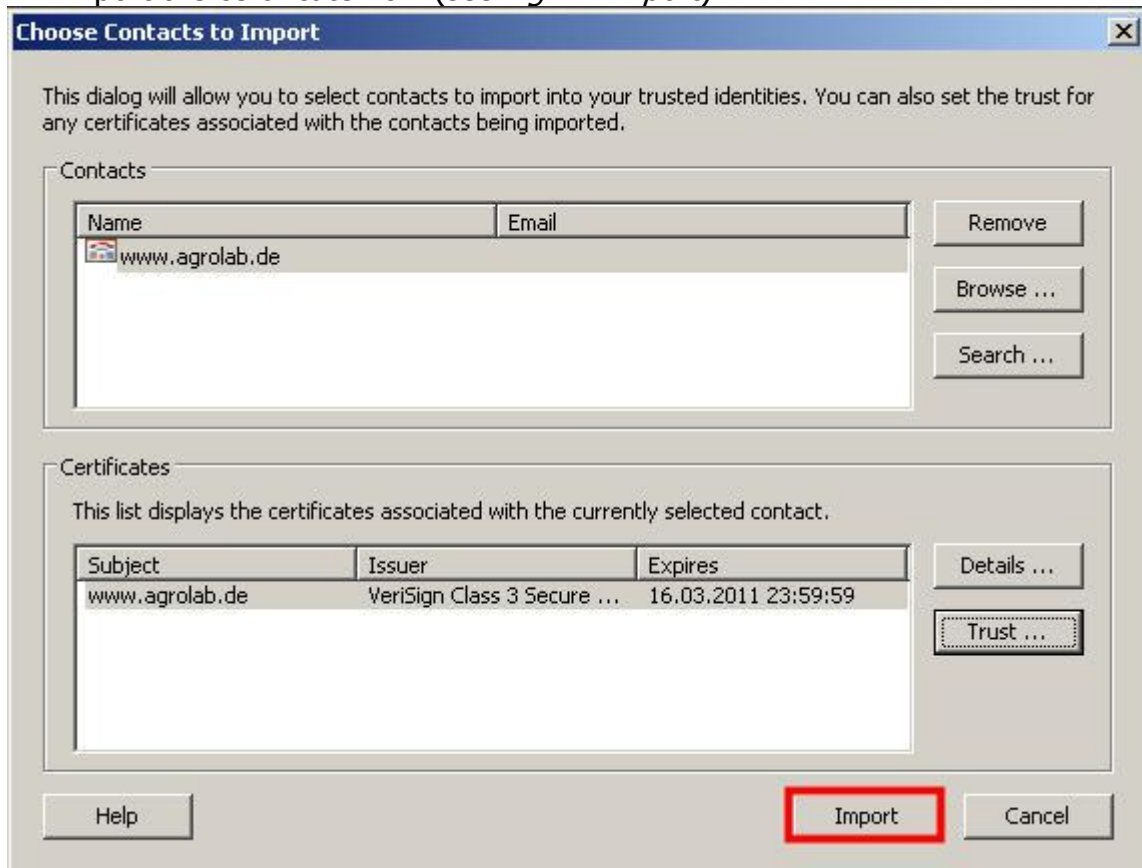


Fig. 7: Import

8. notice the final result message (see Fig. 8: notice the results)

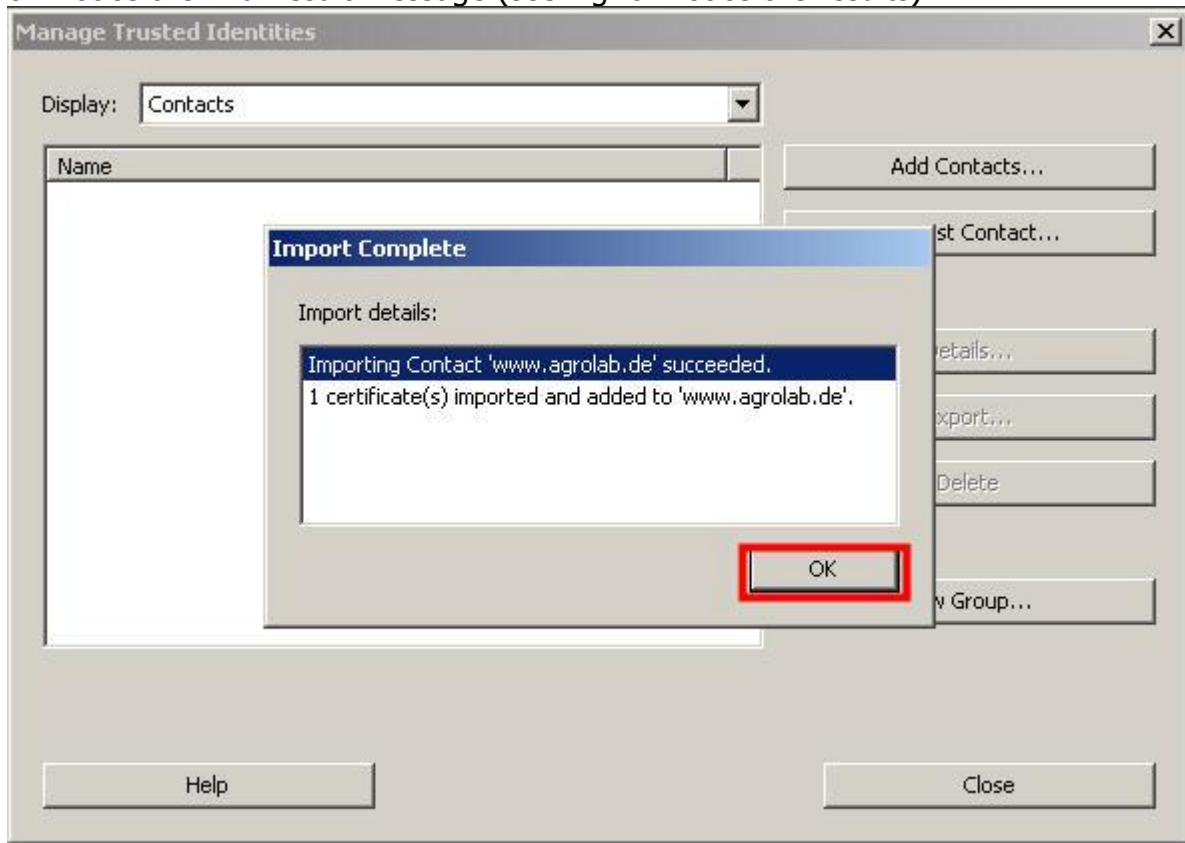


Fig. 8: notice the results

3. Open Document and check Signature

Now open the document you received from AGROLAB in Adobe Acrobat Reader.

The following steps are required to check the signature on the Agrolab document.

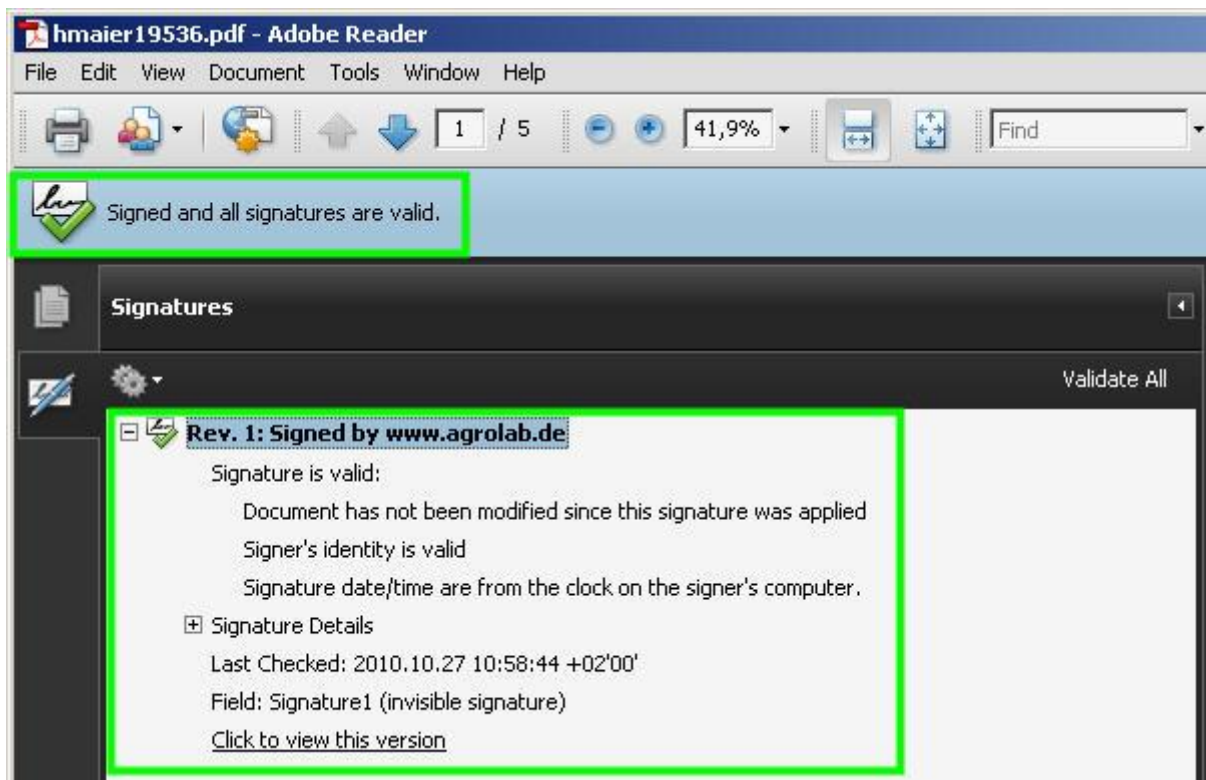


Fig. 9: Signature details

In **Fig. 9: Signature details** you see the details of the signature and the results of the signature validation:

- Signature is valid,
- Document has not been modified since the signature was applied
- Signers identity is also valid
- and signatures timestamp is from the signer's computer (not an embedded timestamp).

A document with this signature checking results can be accepted as valid.

For checking the signature manually you can always use the context menu (right mouse-click on the first line, **Fig. 10: Validate Signature**)



Fig. 10: Validate Signature

.. and as result you get that signature is valid:

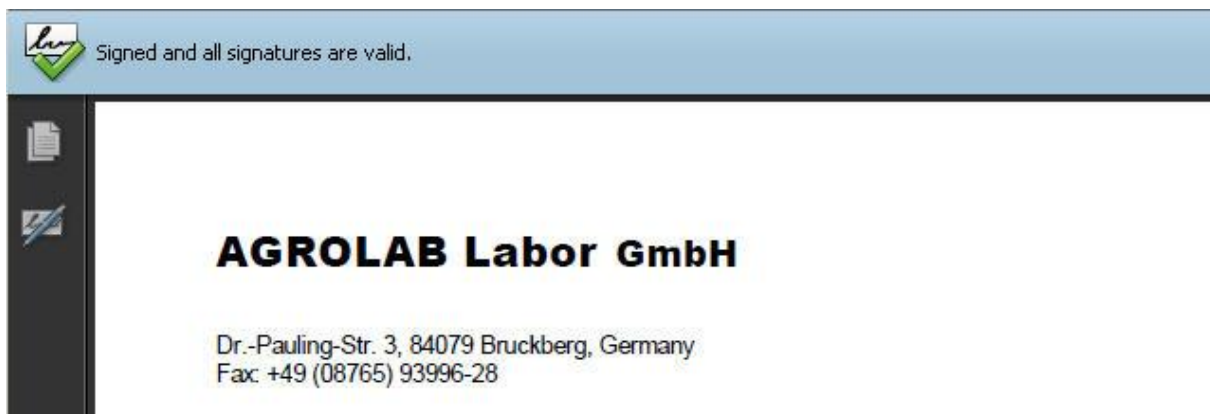


Fig. 11: Message: valid signature

4. Certificate Signature

A Certificate Signatur has additional properties:

1. The document has a visible seal which indicates the signing status as follows:



Fig. 12: Valid Signature

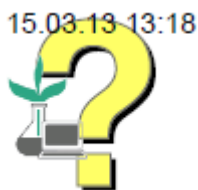


Fig. 12: Signature not yet checked



Fig. 13: Invalid Signature

2. Document cannot be changed without notice
3. Document will lose the visible seal when extracted and or copied with some PDF manipulation tool.
4. The visible seal appears on all pages of the document (currently in the centre of the footer).

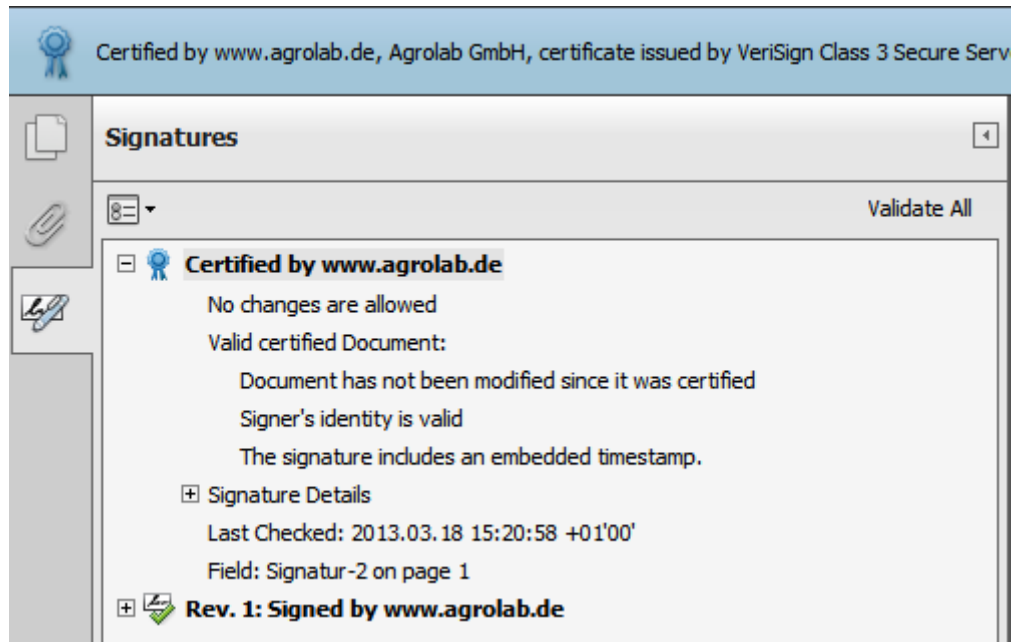


Fig. 14: checking a Certificate Signature

Time Stamping Agency

Generally there will be a timestamp showing the time the document has been signed.

As the timestamp is from signers' computer there is a possibility to manipulate the timestamp. You could change your document set your computers time to a date in the past and sign the document.

To protect your documents timestamp a TSA can be used to guarantee the signing time. This timestamp is unique and cannot be changed without notice, because it is embedded in the signature (**Fig. 15: embedded timestamp**).



Fig. 15: embedded timestamp

AGROLAB will take care to ensure using generally a TSA created and verified timestamp. This will be done using an external service provider. But availability may not be 100%. So it will be possible that you receive documents without TSA timestamps (**Fig. 16: without TSA-Timestamp**).



Fig. 16: without TSA-timestamp

5. Troubleshooting

Certificate unknown

You will get a message that the signature has problems when Agrolab certificate is unknown to your PDF-Application (**Fig. 17: Problems with the signature**):

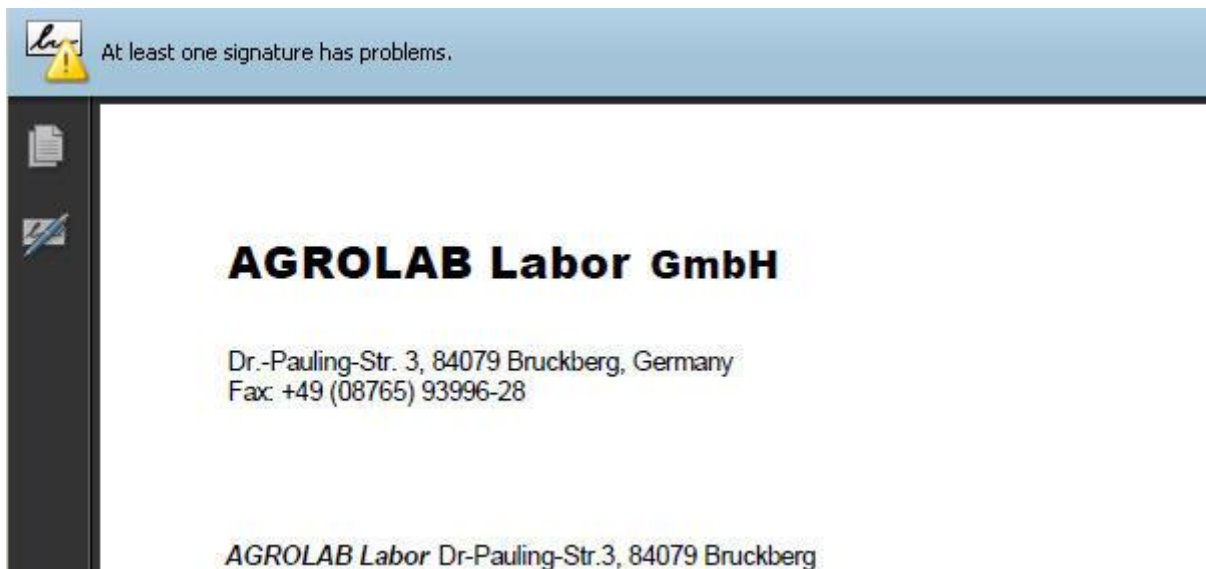


Fig. 17: Problems with the signature

This can occur on several situations. Primary cause is a missing certificate installation. By all means you should check that the certificate is properly installed. Also check that the installed certificate is valid for the expected period of time the document is created. Check certificate also for following properties:

- Issuer is Agrolab GmbH
- The certificate has been certified by a trusted certification Authority (CA) like e.g. Verisign.
- The certificate is valid for the creation date of the document.

Certificate expired

Certificates are issued and valid within a certain period of time. They will expire after this period and a new certificate will be provided for the next period of time. Documents are always signed using certificates that are valid when document is signed.

Old certificates (with run out validity by time) will stay valid for the documents signed within the period of validity and can be used to countercheck old documents.

„Save as not possible“

After introduction of Signed PDF-documents sometimes customers called for support stating they cannot save a copy of the file.

This originally depends on the signature as a security feature. The attempt to save the displayed PDF document will be started by a dialog window as seen in Fig 18: Message at saving..

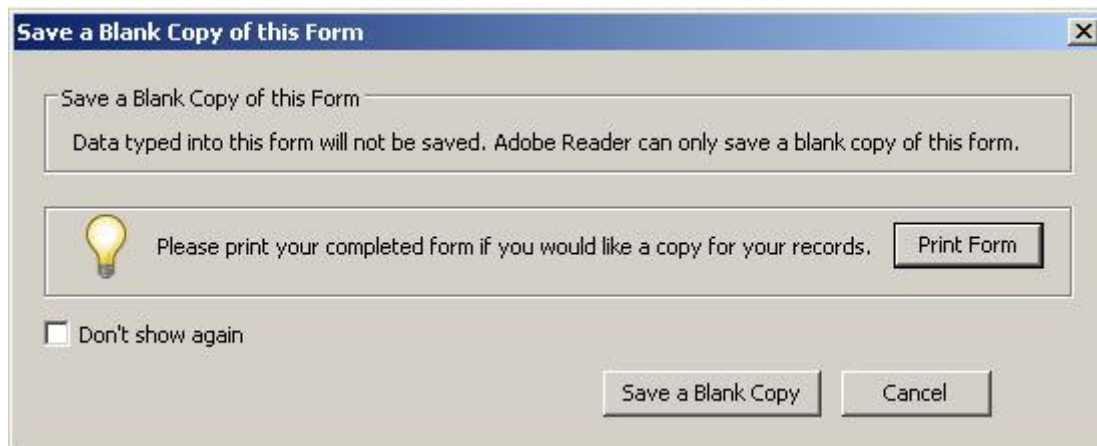


Fig 18: Message at saving..

You are now going to save an additional copy of the signed document. To suppress this dialog in future you may check the box „Don't show again“.

The reason for this behavior is: Opening the signed document in Adobe Reader and the following „Save as“ leads to a change of the Original date of the document. A dialog box will be shown in Adobe Reader with the message that a blank copy will be created.

As the original signed document is already existent, you are trying to save a copy to a new file. This will change the signature and a new original creation date will be saved with the copy. It is recommended that you **don't use** this way to save signed documents.

To avoid changes in the signed document, it is recommended that you

1. open your email, (and/or the attached Zip-archive)
2. click with right mouse button on the document to save,
3. select „Save“, or „Save as“ from context menu
4. and determine location and name of the storage file.

It is your sole responsibility whether you preserve your documents in accordance with all applicable laws and regulations or whether you choose to archive changed copies!

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