INTRODUCTION
Textile are flexible woven materials, chemically complex polymeric materials. Due to the abundance and many similar properties of different textile fibres, identification with traditional methods like microscopy, dissolving and burning can be impossible. In this field less-destructive, easy and quick identification methods must be used. In this work almost non-destructive attenuated total reflectance (ATR), non-contact reflectance (r) approach with FT-IR microspectroscopy for the analysis of textile fibres was tested and compared.

RESULTS
- Over 2000 ATR-FT-IR and r-FT-IR spectra of 16 different textile fibres (wool, silk, cotton, linen, jute, sisal, viscose, acetate, lyocell, glass, polyester, polyamide, polyacrylic, elastane, polyethylene, polypropylene) were recorded.
- Classification methods using discriminant analysis based on principal component analysis were developed.
- Several case-study analyses were performed.

CASE STUDY EXAMPLE

CONCLUSION
FT-IR spectroscopy with ATR and reflectance modes are very useful methods for identification of natural and synthetic fibres. These methods are quick, easy and in many cases non-destructive.