



FAIR TRADE CENTER

# FASHION VICTIMS

A REPORT ON SANDBLASTED DENIM



# Fashion victims

## a report on sandblasted denim

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Christopher Riddselius

The Fair Trade Center is a non-governmental organisation (NGO) that promotes ethical trade by monitoring Swedish companies who trade with low-income countries. We aim to promote socially and environmentally responsible trade through dialogue, campaigns and consumer information. <http://www.fairtradecenter.se/english>

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# Summary

**T**reating denim to make the fabric look worn or faded is common within the clothing industry. Different methods can be used to create the desired finishing effect. One such method is sandblasting, which can be extremely damaging to workers' health if performed without suitable protective equipment. The large amounts of silica dust generated during the process can cause silicosis, a potentially lethal pulmonary disease, as workers inhale tiny particles of silica. In 2009, Turkey prohibited manual sandblasting with silica, something that resulted in a major decline of the practice throughout the country. Until that time, manual sandblasting had been commonplace, especially within the informal sector. Sandblasting has often been performed by migrant workers<sup>1</sup> during long work shifts, in cramped, unhygienic treatment rooms without ventilation or safety equipment. In some cases workers even slept on site.

At the time that this report was published, approximately 50 people in Turkey had died as a direct result of exposure to silica dust whilst sandblasting denim. According to an estimate from the Turkish Solidarity Committee of Sandblasting Laborers about 5000 people working in the clothing industry in Turkey have developed silicosis.

Since the ban was introduced in Turkey the sandblasting industry has moved to other countries, such as China, India, Bangladesh, Pakistan, and parts of Northern Africa. Little is currently known about the situations facing sandblasting workers in these countries, but NGOs and trade unions fear that the conditions are similar to those found in Turkey.

In this study, the Fair Trade Center has investigated the way in which 17 clothing and textile retailers work with the dangers presented by sandblasting. We have discovered that three of these companies (Whyred, Nudie Jeans and Varner-Gruppen) are using the method. Whyred was not able to confirm whether or not the sand being used contained silica. When we first got in touch with H&M, Fabric Skandinavien, Gina Tricot, Inditex, Åhléns and Tiger of Sweden these companies revealed that they were using sandblasting techniques for some of their garments. However, during the compilation of this report all the aforementioned companies confirmed that they have decided to phase out sandblasting methods from their production. Kappahl and Lindex stated that they had stopped using this method before the Fair Trade Center investigation. H&M's decision to ban sandblasting shows that even where a comprehensive sandblasting policy is in place, including demands that workers should be educated about the associated risks, companies cannot guarantee that they are in full control of the sandblasting methods used by their suppliers.

Knowledge about sandblasting among the clothing companies is generally low with respect to the techniques, the type of sand being used, where in the supplier's supply chain the blasting is performed and in which country production is located. Surprisingly few companies have taken any preventative steps to deal with the issue. Many companies have pointed to the fact that they use alternative methods to sandblasting, but it is very difficult for the consumer to distinguish between denim garments that have been sandblasted and those that have been treated using other methods. From a health and safety perspective no method is entirely free of risk. The clothing companies therefore have a responsibility to prove to consumers that their jeans and other denim products are not putting those involved in their production at risk.

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1. The migrant workers largely came from rural areas or nearby countries such as Romania, Bulgaria, Moldova, Georgia and Azerbaijan.

# Introduction

Approximately five billion pairs of jeans are produced worldwide each year. Jeans have been a popular item of clothing for several decades with a long manufacturing history. Jeans were first used by dock workers in Genoa several centuries ago as they valued the material for its durability. However, it was not until the 1950s that jeans became globally popular thanks to popular culture.<sup>2</sup> During the 1970s design and tailoring was central to denim culture, but it was not until the mid 1980s that manufacturers started using methods to make the material look worn. The first such method involved tearing the denim using brushing-techniques. Worn-out jeans continued to be fashionable during the 1990s with brands such as Diesel and Replay supporting the trend. However, not until the following decade did the fashion of wearing pre-torn jeans become popular throughout the Western world, thus requiring new methods including sandblasting.<sup>3</sup>

Whilst sandblasting to achieve a worn-look on denim is a relatively new phenomenon within the clothing industry, the method as such has been widely used within the mining and building industries for many decades. Manual sandblasting with silica was banned in the European Economic Community in 1966 due to the severe risks associated with the inhalation of silica dust. The UK prohibited this practice even earlier in 1950.<sup>4</sup> Whilst Sweden followed suit in 1992, sandblasting in ventilated blast rooms and wet sandblasting during which the material is mixed with water were exempted from the ban.<sup>5</sup>

Following the imposition of strict regulations on sandblasting in many European countries, the clothing industry has largely outsourced production to as yet unregulated regions. Since the turn of the century sandblasting has largely been located in countries such as Turkey, Syria, Bangladesh, Mexico, India and Indonesia. Since then it has moved even further to unregulated regions such as South East Asia and North Africa. Silvana Cappuccio, a health and safety expert at the International Textile Garment & Leather Workers' Federation, states that production tends to move to regions where labour is cheap and legislation is weaker.<sup>6</sup>

## Aims and method

The Fair Trade Center hopes that the report will highlight the way in which clothing companies handle the risks associated with sandblasting.

The study can be divided into two sections – one covering background information and the other focusing on corporate aspects. The background information has been compiled using various reports and articles, as well as other relevant sources made available by the Swedish Work Environment Authority amongst others. In addition, interviews about sandblasting and silicosis were conducted at the European Regional Organisation of Workers in the Textile, Clothing, Leather and Footwear sectors conference in Istanbul held on 29 June-1 July 2010.

The corporate part is based on a survey containing questions about sandblasting, which was sent to 17 clothing companies. Once the answers had been processed further questions were asked. Some of the companies had specific policies or demands concerning sandblasting and these have been researched separately. All 17 companies are active on the Swedish market and some are profiled as denim companies. All 17 companies were contacted via email or telephone between June and September 2010. In most cases the company's CSR representative responded to our questions, and in other cases we have had contact with environmental officials, production managers, supply managers or marketing directors.

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2. Cappuccio, S. HesaMag #01 2009, Jeans, the human cost of a fashion victim, p. 46, [http://hesa.etui-rehs.org/uk/newsletter/files/HESAmag\\_1\\_UK\\_46-47.pdf](http://hesa.etui-rehs.org/uk/newsletter/files/HESAmag_1_UK_46-47.pdf)

3. Marsh, Graham & Trynka Paul, Denim from cowboys to catwalks, pp. 114-117

4. Akgun, M. et al. An epidemic of silicosis among former denim sandblasters, European Respiratory Journal Volume 32 #5, p. 1302

5. Arbetskyddsstyrelsens författningssamling: Kvarter 1992:16, paragraph 10, p. 4

6. Cappuccio, S. HesaMag #01 2009, Jeans, the human cost of a fashion victim, p. 46, [http://hesa.etui-rehs.org/uk/newsletter/files/HESAmag\\_1\\_UK\\_46-47.pdf](http://hesa.etui-rehs.org/uk/newsletter/files/HESAmag_1_UK_46-47.pdf)



# The sandblasting technique



**SANDBLASTING WORKER IN BANGLADESH WITHOUT SUITABLE PROTECTIVE EQUIPMENT**  
PHOTO: CCC GERMANY

**T**here is a wide variety of denim available on the market today. Denim is the fabric and jeans is the name commonly given to the garments. Jeans are either left untreated or treated to achieve a worn look. The latter can be achieved in a number of ways, depending on the desired finish. Methods include manual or mechanical sandblasting, washing, stone washing, chemical treatment, laser treatment, or manual treatment using sandpaper. Sandblasting is most frequently used to treat jeans, but it can also be used on other denim garments, such as skirts, dresses or jackets.

The sandblasting technique involves removing the dark indigo pigmentation from the garment. Propelling a stream of abrasive material (sand) against the fabric under high pressure gradually softens and lightens the denim. The desired finishing result can be achieved by increasing or decreasing the exposure. Whilst some factories use sealed blasting cabinets with ventilation, others require workers to operate the machinery in treatment rooms. The type of blasting material used can also differ. Certain materials can be reused and others are disposable. In some cases ventilation in the cabinets sucks the blasting material through a filter, so that it can be reused on another item of clothing.

# Sandblasting and silicosis

**S**andblasting can expose workers to extreme health hazards. Some facilities use natural sand containing silica meaning that workers inhale crystalline silica dust particles during production, causing serious damage to the respiratory passages.<sup>7</sup> These particles are so tiny that they are invisible to the naked eye.<sup>8</sup> The body is unable to expel the silica particles causing diseases such as silicosis. The particles penetrate the pulmonary alveoli and the connective tissue, gradually impairing lung capacity and their ability to oxygenate the blood. Symptoms include shortness of breath, and as the disease develops, this is common even when resting. This puts additional strain on the heart eventually leading to death.<sup>9</sup> However, silicosis can be prevented if symptoms are diagnosed at an early stage.<sup>10</sup>

Silicosis is one of the oldest known occupational diseases and when fully developed it is chronic. Until recently, silicosis was only found among workers within the mining, construction, stone and excavation industries. It was also common among workers at iron foundries, steel plants and glass and ceramic manufacturers.<sup>11</sup>

According to the WHO, workers can develop three types of silicosis depending on the concentration of dust they are exposed to:

1) Chronic silicosis, which usually develops after 10 years or more of working in environments with relatively low concentrations of dust.

2) Accelerating silicosis, which develops between 5-10 years after first being exposed to the dust, or:

3) Acute silicosis, which develops following exposure to high concentrations of crystalline silica dust, and causes symptoms to appear from within a few weeks to 4-5 years after first being exposed.<sup>12</sup>

Sandblasters within the clothing industry are most likely to suffer from acute silicosis. The symptoms have been extensive and, in comparison with other industries the disease has developed much more quickly within this industry, which is likely to be a result of the uncontrolled work environments within that industry.<sup>13</sup> Several factors make sandblasting dangerous: continuous exposure to dust, cramped work spaces, long working hours and, in many cases unhygienic workshops and no protective equipment. Moreover, the treatment rooms are often poorly ventilated because employers fear that the dust will spread which may incur additional costs.<sup>14</sup> Sandblasting is often outsourced to subcontractors of clothing companies' direct suppliers.<sup>15</sup> The work is often performed in uncontrolled, unregistered workshops in the informal sector. Many workshops are also located in remote areas, or in the basements of such workshops.<sup>16</sup> Another problem is that the subcontractors tend to replace the alternative blasting material with silica sand once inspectors have left.<sup>17</sup>

7. Cappuccio, S. HesaMag #01 2009, Jeans, the human cost of a fashion victim, p. 46, [http://hesa.etui-rehs.org/uk/newsletter/files/HESAMag\\_1\\_UK\\_46-47.pdf](http://hesa.etui-rehs.org/uk/newsletter/files/HESAMag_1_UK_46-47.pdf)

8. Quartz is a crystalline mineral of silicon dioxide (SiO<sub>2</sub>). When heated quartz transforms into tridymite, or kristobalite. Both these minerals are modifications of crystalline silicon dioxide. (AFS 1992:16).

9. Information from the Swedish Work Environment Authority, Quartz-dust can cause silicosis

10. Silvana Cappuccio, International Textile, Garment and Leather Workers Federation, at the European Regional Organisation of Workers in the Textile, Clothing, Leather and Footwear sectors conference in Istanbul held on 29 June-1 July 2010.

11. Yesim Yasin, Solidarity Committee of Sandblasting Laborers, at the European Regional Organisation of Workers in the Textile, Clothing, Leather and Footwear sectors conference in Istanbul held on 29 June-1 July 2010.

12. WHO, Concise International Chemical Assessment Document 24, Crystalline Silica, Quartz, p. 18 <http://www.who.int/ipics/publications/cicad/en/cicad24.pdf>

13. Yesim Yasin, Solidarity Committee of Sandblasting Laborers, at the European Regional Organisation of Workers in the Textile, Clothing, Leather and Footwear sectors conference in Istanbul held on 29 June-1 July 2010

14. Cappuccio, S. HesaMag #01 2009, Jeans, the human cost of a fashion victim, p. 46, [http://hesa.etui-rehs.org/uk/newsletter/files/HESAMag\\_1\\_UK\\_46-47.pdf](http://hesa.etui-rehs.org/uk/newsletter/files/HESAMag_1_UK_46-47.pdf)

15. Cappuccio, S. HesaMag #01 2009, Jeans, the human cost of a fashion victim, p. 46, [http://hesa.etui-rehs.org/uk/newsletter/files/HESAMag\\_1\\_UK\\_46-47.pdf](http://hesa.etui-rehs.org/uk/newsletter/files/HESAMag_1_UK_46-47.pdf)

16. Today's Zaman (Turkish newspaper), <http://www.todayszaman.com/tz-web/detaylar.do?load=detay&link=156301>

17. Prof. Dr Zeki Kilicaslan, Solidarity Committee of Sandblasting Laborers, at the European Regional Organisation of Workers in the Textile, Clothing, Leather and Footwear sectors conference in Istanbul held on 29 June-1 July 2010.

# Increased fatalities in Turkey

**C**lothing and jeans manufacturing are an important part of the Turkish economy. The industry has expanded since the 1970s and by 2008 Turkey was one of the world's largest jeans exporting countries with sales of 2.3 billion USD.<sup>18</sup> It is estimated that 3 million people work in the Turkish clothing industry.<sup>19</sup> According to information from the International Textile Union approximately 300 000 people work in the denim industry and 10 000-15 000 of these work with sandblasting, most of whom are young people from rural areas, or migrant workers from nearby countries such as Romania, Bulgaria, Moldavia, Georgia or Azerbaijan.<sup>20</sup>

Turkey is the first country where silicosis has been identified within the textile industry.<sup>21</sup> Since 2000 the number of people working with sandblasting has risen considerably with increasing cases of silicosis being reported from 2004. This enabled researchers and doctors at Atatürk University in Erzurum (northeastern Turkey) to link jeans manufacturing with silicosis.<sup>22</sup> The first two cases concerned two men aged 18 and 19 who had worked in the industry for about five years. The first had reported trouble with a dry cough, dizziness and weight loss for three months. The second had had respiratory problems for four years. The workers were 13 and 14 years old when they started at the

sandblasting workshop working eleven hours a day, in a room with no windows or ventilation, with only a face mask for protection. Both men died shortly after being diagnosed. Compared to other industries, the textile industry workers developed silicosis very rapidly being diagnosed after only five years.<sup>23</sup> Another study from 2008, that included 157 workers, showed that the average age of workers was 23, and that the youngest had started working at the age of ten. Both the working hours and work environments were described as appalling and in some cases the workers were permanently exposed to the dust as they also slept in the workshops.<sup>24</sup>

In March 2009 Turkey imposed a ban on the use of materials containing silica when blasting denim. The aim was to halt the spread of silicosis. The ban was introduced following pressure from the Solidarity Committee of Sandblasting Labourers, a committee that concerns itself with sandblasting workers, unions, medical practitioners and NGOs. In addition to this the government stated that it would be closing 60 sandblasting workshops, that regulation would improve, and that workers' rights to pension plans would be guaranteed.<sup>25</sup> By July 2010, 46 people had died from silicosis, all of whom had developed the disease whilst working within the clothing industry as sandblasters.<sup>26</sup>

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18. Cappuccio, S. HesaMag #01 2009, Jeans, the human cost of a fashion victim, p. 46,

[http://hesa.etui-rehs.org/uk/newsletter/files/HESAmag\\_1\\_UK\\_46-47.pdf](http://hesa.etui-rehs.org/uk/newsletter/files/HESAmag_1_UK_46-47.pdf)

19. Fair Wear Foundation, Annual Report 2009, p. 34, [http://fairwear.org/images/2010-06/fwf\\_annualreport\\_2009.pdf](http://fairwear.org/images/2010-06/fwf_annualreport_2009.pdf)

20. Cappuccio, S. HesaMag #01 2009, Jeans, the human cost of a fashion victim, p. 47,

[http://hesa.etui-rehs.org/uk/newsletter/files/HESAmag\\_1\\_UK\\_46-47.pdf](http://hesa.etui-rehs.org/uk/newsletter/files/HESAmag_1_UK_46-47.pdf)

21. Hurriyet Daily News (Turkish newspaper),

<http://www.hurriyetdailynews.com/n.php?n=denim-blasting-workers-ask-for-their-rights-2010-06-21>

22. Cappuccio, S. HesaMag #01 2009, Jeans, the human cost of a fashion victim, p. 46,

[http://hesa.etui-rehs.org/uk/newsletter/files/HESAmag\\_1\\_UK\\_46-47.pdf](http://hesa.etui-rehs.org/uk/newsletter/files/HESAmag_1_UK_46-47.pdf)

23. Ibid.

24. Akgun, M. et al. An epidemic of silicosis among former denim sandblasters, *European Respiratory Journal* Volume 32 # 5, p. 1298

25. Cappuccio, S. HesaMag #01 2009, Jeans, the human cost of a fashion victim, p. 46,

[http://hesa.etui-rehs.org/uk/newsletter/files/HESAmag\\_1\\_UK\\_46-47.pdf](http://hesa.etui-rehs.org/uk/newsletter/files/HESAmag_1_UK_46-47.pdf)

26. Prof. Dr Zeki Kilicaslan, Solidarity Committee of Sandblasting Laborers, at the European Regional Organisation of Workers in the Textile, Clothing, Leather and Footwear sectors conference in Istanbul held on 29 June-1 July 2010.



According to the Solidarity Committee of Sandblasting Labourers approximately 600 workers have been diagnosed with silicosis in Turkey in the last decade, but the Committee fears that this number could rise to almost 5000. The fact that many of the workers are or have been employed within the informal sector or at unregistered companies means that they do not have any proof of employment, which means that they are not eligible for social security benefits or compensation. The Committee demands that all sandblasting workers should have the right to medical care, including a physical examination and treatment, guaranteed by the government, regardless of their social security status. Further, the Committee demands that workers who have been diagnosed with silicosis should be given the immediate right to social security and pensions, even during ongoing legal battles.<sup>27</sup>



**WORKER SANDBLASTING IN BANGLADESH.**  
PHOTO: CCC GERMANY

## Exporting hazardous work methods

Activists and unions in Turkey fear that the worst type of sandblasting has now been exported to other countries. At the European Textile Union Conference held in Istanbul earlier this year Yesim Yasin from the Solidarity Committee said that the conditions in sandblasting industry in Bangladesh resembled the situation in Turkey. This was confirmed in the Indian union newspaper “The Caravan” in August 2010 by an Indian journalist who visited a sandblasting workshop in the suburbs of Dhaka, Savar Upazila. The workers were men in their twenties and only used pieces of cloth to cover their faces. The facility had no ventilation whatsoever, and the blasting material being used was natural sand from a nearby river. The workshop employed about 30 workers, and the workshop manager interviewed claimed that there were almost a

hundred similar sandblasting workshops that together blast 150 000 garments per month. Just like in Turkey it is common for clothing companies to use subcontractors to do the sandblasting, which makes it difficult for the consumer to trace garments.<sup>28</sup>

In Bangladesh, no link has yet been established between sandblasting and silicosis. According to “The Caravan”, general practitioners, nurses and employment lawyers know too little about the risks, and it is currently very unlikely that poorly remunerated textile workers can afford to visit a lung specialist if they are ill.<sup>29</sup> At the time of writing there is very little information about the work environments in other countries involved in sandblasting, including Bangladesh, China, Pakistan, Italy, Syria, Indonesia and countries in northern Africa.

27. The website of The Solidarity Committee of Sandblasting Laborers, <http://www.kotiscileri.org>

28. The Caravan (Indian newspaper), August 2010, <http://caravanmagazine.in/PrintThisStory.aspx?StoryId=365>

29. The Caravan (Indian newspaper), August 2010, <http://caravanmagazine.in/PrintThisStory.aspx?StoryId=365>

# Alternative methods

**D**ifferent methods can be used to achieve a worn look on denim garments. The reason that sandblasting with natural sand prevails is that it is cheaper. Installing more advanced industrial equipment is expensive and the availability of natural sand is vast.

The most common form of sandblasting is manual blasting, but sandblasting can also be performed mechanically in blasting cabinets where the process is more controlled. The latter requires the sandblasting factories to make more investments.

There are numerous methods to tear denim. Some involve the use of chemicals (e.g. potassium permanganate or hydrogen peroxide) whilst others make use of stone-washing, sandpaper, brushing or laser. However, no method is entirely free of risk with respect to health and safety. Heavy exposure to potassium permanganate can

cause manganese poisoning and stone washing with materials other than pumice stone can pose a serious health hazard to workers. Using sandpaper or the brush method to achieve a worn look can put workers at risk of occupational asthma due to dust exposure. The use of laser requires considerable investments and can be dangerous if the workers fail to wear protective eye equipment.<sup>30</sup>

Since sandblasting and other methods of treating denim are a new phenomenon in the clothing industry it has so far been impossible to determine which method is safe from a health and safety perspective. Regardless of which method is being used though, workshops should be suitably built and equipped. Moreover, all workers should use appropriate safety equipment, including face masks to prevent the inhalation of dangerous dust particles, goggles, ear plugs and protective clothing.

# Difficulties for the consumer

It is virtually impossible for the consumer to spot the difference between manually treated jeans and jeans that have been mechanically sandblasted, or treated using other methods. Technical expertise in jeans manufacturing is

needed to be able to identify which treatment method has been used on a specific garment. It is therefore difficult for consumers to make a conscious choice.

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30. Prof. Dr Zeki Kilicaslan, Solidarity Committee of Sandblasting Laborers, via email on 15 March 2010

# A comparative view of 17 companies operating in Sweden

## ACNE

Acne claims that sandblasting is not used in production of its garments. Most of Acne's jeans are manufactured in Turkey. The company has previously used sandblasting methods in denim production in Italy. Acne does not have a specific sandblasting policy, but it has taken an active stand against the use of sandblasting. Acne's production manager Therese Munthe states that the company has stopped using sandblasting because of reasons concerning working environments. During autumn 2010 Acne has been considering the introduction of a specific sandblasting policy.

## FABRIC SCANDINAVIEN (WEEKDAY/MTWTFSS, CHEAP MONDAY OCH MONKI)

When the Fair Trade Center first got in touch with Fabric Skandinavien the company said that its production involved the use of sandblasting. A couple of weeks later, in August 2010, the CSR manager Irene Häglund claimed that Fabric Skandinavien had stopped using sandblasting. Häglund also stated that sandblasted products only accounted for "a very small part" of its total production. Later, Häglund explained that the company had "researched and reviewed the need for sandblasting" and had concluded that none of its orders required sandblasting. During the initial contact with the company it was claimed that it used contractors with sandblasting facilities in China and Turkey. At the end of September, Häglund said that the company did not have any Turkish suppliers with sandblasting facilities but that it does use Chinese suppliers. Fabric Scandinavien makes specific demands regarding sandblasting, which are the same as those made by H&M (see below). Fabric Skandinavien has not provided any training to workers at suppliers with sandblasting production facilities.

## FILIPPA K

Filippa K claims that sandblasting does not feature in its production. Instead they use stone washing or manual scraping to achieve the desired tear effect on its denim garments. Supply manager Elin Larsson gave the following statement: "As far as I can see [the company] has never used sandblasting...The reason we don't use sandblasting isn't an active decision, but more of a design issue. But if we were to use sandblasting methods we would make sure not to endanger the health and safety of the workers. If that were the case, we would choose an alternative method." Filippa K makes no specific demands concerning sandblasting.

## GINA TRICOT

When the Fair Trade Center first contacted Gina Tricot the company claimed that one of its two suppliers in China used sandblasting. This supplier outsourced this process to a subcontractor. At the end of June 2010, Anna-Karin Wårfors, the company's CSR spokesperson told the Fair Trade Center: "We will shortly be considering our stance on [sandblasting] and whether we will establish a specific policy against sandblasting." Gina Tricot does not provide any training to workers involved in sandblasting. During a telephone conversation in August 2010, Wårfors stated that the company was still considering whether to impose a ban on sandblasting or not. She also stated that sandblasting only represents a small part of Gina Tricot's production. On 10 September 2010 Wårfors got in touch with us again to inform us that the company was imposing an immediate ban on the use of sandblasting.

## H&M

H&M claims that sandblasting no longer features in any part of its production, but that the process had previously been used at some of its suppliers in Turkey, Bangladesh, China and Pakistan. Sandblasting had been performed by its direct suppliers and their subcontractors. From 2005 H&M started working with the issue of sandblasting and in mid 2006 the company implemented a specific policy regarding the practice. H&M's CSR product manager Henrik Lampa divides the policy into three main parts: demands regarding blasting materials, ventilation and safety equipment. For example, blasting material may not contain more than one percent crystalline silica (quartz). The supplier needs to verify this by taking samples. Another demand is that the production facility must have an air extractor in each treatment room and the air from the work station should flow forwards in order to minimise dust particles and enable filtration of the air. The final demand requires workers to use safety equipment that conforms to international standards concerning exposure to dust particles. Lampa explained that these were the minimum standards that H&M would accept with respect to sandblasting. He added that when the demands were implemented in 2006, H&M started working with the suppliers that failed to live up to the standards set out in H&M's policy, so that they "could try to get them up to the level we demanded in our minimum requirements". The demands were part of the standard audit programme at sandblasting workshops. In a telephone interview on 6 August 2010, Lampa confirmed that some workshops still did not reach the minimum requirements set by H&M, and that H&M had discovered silica sand in their production facilities.

To complement its demands concerning sandblasting H&M also started to educate workers. Lampa explained the introduction of training programs as follows: "In this case we did it to increase the standards, and to make the workers aware of the risks involved, and that if it wasn't handled correctly, it could be hazardous to their health. It was also a matter of motivating them to use safety equipment, as managers had told us that they had tried to get the workers to use the safety equipment, but workers did not want to do so because they found it harder to breathe. It was therefore important to make workers understand why they should use the safety equipment."

Lampa says that H&M has reduced the use of sandblasting over the years and that it has now decided phase it out of production. The method has been abandoned completely in the last few months. In a press release dated 8 September 2010, H&M stated that sandblasting was to be phased out, and that there would be no more orders requiring the use of sandblasting from 31 December 2010. Lampa added: "We will continue to audit the workshops so that they can live up to our minimum requirements...so that the workers within the facilities we work with are not being exposed to unacceptable risks and to minimize the risk of our products ending up [being sandblasted]." Lampa explained H&M's incentive for the ban on sandblasting as follows: "If you make a mistake when choosing blasting materials, and sand containing silica suddenly appears in production, the risk level suddenly falls to an unacceptable level. Rather than the risk level falling from an acceptable to a less acceptable level, it instead becomes entirely unacceptable."

## INDISKA

Indiska claims that sandblasting does not feature in its production. The company's CSR manager, Renée Andersson states that design and work environment issues are the reasons that Indiska does not allow the use of sandblasting. The company's denim production is located in China at a supplier that uses manual scraping to create the tear effect on its garments. Indiska does not have a specific sandblasting policy.

## INDITEX

(ZARA, MASSIMO DUTTI, PULL & BEAR, BERSHKA, STRADIVARIUS, OYSHO, ZARA HOME OCH UTERQÛE)

Inditex states that sandblasting features in its production at its subcontractors in Bangladesh and China. The company uses tearing methods for 80% of its denim production of which 5% is performed using sandblasting. During 2009 Inditex observed the “increasing awareness” about blasting materials containing silica and during the summer of 2010 the company put together a specific sandblasting policy. This policy stipulates demands concerning blasting materials, safety equipment, ventilation and dust collection. In addition to company demands, Inditex also began performing controls within the framework of its “Social Audit Program”. In early September 2010, the company’s CSR manager, Aleix Gonzalez Busquets said that silica sand was being used in approximately 15% of the sandblasting workshops that supplied Inditex. By the end of October the company stated that manual sandblasting and sandblasting that includes material with more than one percent silica no longer features in its supply chain. Moreover, the company announced that it expects to exclude all types of sandblasted products before the end of the year. Inditex has not provided any specific training for workers involved in sandblasting.

## J. LINDEBERG

J. Lindeberg claims that sandblasting does not feature in any part of its supply chain. Sandpapering is the most common method used to treat denim. J. Lindeberg does not have a specific policy concerning sandblasting. The sustainability coordinator at J. Lindeberg, Ylva Sellberg made the following statement: “Given the vast problems associated with sandblasted products, we would, however, carefully check all the necessary conditions at suppliers before making such a decision.”

## KAPPAHL

Kappahl claims that sandblasting no longer features in its production. When asked whether the decision not to use sandblasted denim represented an active stand against the practice, the company’s CSR manager Eva Kindgren replied: “We have actively urged all buyers to find alternative methods that produce results similar to those achieved using sandblasting.” Kindgren also stated that these methods “did not contain harmful substances that could cause cancer.” Nowadays Kappahl uses different spray methods to achieve the same results as sandblasting. Kappahl used to work with sandblasting in its production workshops in China, Bangladesh, Turkey and Pakistan, both at the laundry facilities of direct suppliers and at subcontractors specialising in laundry and washes. Kappahl has a sandblasting policy that stipulates that blasting material may not contain more than one percent silica. The policy does not place any demands on its own suppliers that sandblast for other clients. Kappahl has not provided any specific training to workers involved in sandblasting.

## LINDEX

Lindex claims that sandblasting does not feature in its production. The company used to permit the use of sandblasting provided that its 2007 sandblasting policy was followed. Some of the rules set out in the policy stated that blasting material could not contain more than one percent silica, that safety equipment should be used, that the workers should undergo training about the health risks, and that they should undergo regular health checks. Sandblasting was performed in Turkey, Pakistan, Bangladesh and China. The company’s CSR manager, Sara Winroth, explains why Lindex has phased out the use of sandblasting: “We want to make do without sandblasting techniques if we can as we are aware of the risks associated with poor safety routines.” The demands that apply to both direct suppliers and subcontractors are monitored by means of inspections at the production units where sandblasting is performed. Winroth continues: “One can’t be 100% sure that the demands are being followed, because this would involve being on site the whole time, and we do not have the capacity to do so.” Today Lindex uses other methods to achieve “the right look”, including manual scraping with sandpaper and spray techniques, as well as brushing, mostly using potassium permanganate.



## **NUDIE JEANS**

Nudie Jeans makes use of sandblasting in production of its garments. That said, less than 5% of the company's jeans are sandblasted. The company's CSR manager, Melker Lindström, says that the volumes differ from season to season. The blasting is performed in Italy at five different laundry facilities that are subcontractors to Nudie Jeans's main supplier. "If one season includes three sandblasted products, we work with three different laundry facilities at the most", says Lindström. When the Fair Trade Center first contacted the company, it did not know which type of sand was being used in the blasting process. A month later Lindström stated that the company does not use silica when blasting. Nudie Jeans does not have a specific sandblasting policy. Lindström also states that: "Considering the volumes of our products that are sandblasted this isn't a very big question for us." Nudie Jeans do not provide any training programs for workers involved in sandblasting, and Lindström added: "This is also a question of structure. These laundry facilities have many customers, but Nudie jeans do not provide any special training for the workers that sandblast our products." When asked how Nudie Jeans can guarantee that the blasting is performed safely at their subcontractors in Italy, the company responded by saying: "We currently visit our suppliers every week during production periods, which gives us a good idea about how, where and when our products are being produced."

## **RNB RETAIL** (BROTHERS & SISTERS, JC OCH POLARN O. PYRET)

RnB Retail states that it does not use sandblasting in its own denim production, but sandblasted jeans from other brands can appear in its range of products. When asked about whether this is an active decision, RnB Retail's CSR manager, Mimmi Brodin, states that work environment issues and design are the reasons why the corporate group does not have sandblasted jeans in its range of products. RnB Retail does not have a specific sandblasting policy. In October 2010, Brodin announced that RnB Retail was going to compile a written list of demands not to use sandblasting in production.

## **TIGER OF SWEDEN**

Sandblasting no longer features in Tiger of Sweden's production. The company had previously used sandblasting in its jeans production, then working with a subcontractor in Italy. The company does not have a specific sandblasting policy. Tiger of Sweden's marketing manager, Per Håkans, was unable to tell us which type of sand was used as blasting material. Håkans states that the majority of Tiger of Sweden's treated jeans were scraped manually, and that the sandblasting that previously occurred in production was "limited". The company does not provide any training programs for sandblasting workers. In an email conversation at the end of September, Håkans stated that Tiger of Sweden had decided to abstain from using sandblasting in future collections from autumn 2010.

## **VARNER-GRUPPEN** (CUBUS, DRESSMAN, CARLINGS, BIKBOK, SOLO, LEVIS STORE, VIVIKES, URBAN)

Varner-Gruppen uses sandblasting in its production, both at direct suppliers and subcontractors in China. Sandblasting was previously performed in Turkey, but they now work with chemicals and sandpaper scraping to achieve the worn effect on denim. The CSR manager, Annabelle Ingeborg Lefébure, was not able to tell us which chemicals were being used. The company does not have a specific sandblasting policy, but Lefébure says that the sandblasting process must follow the group's safety demands, concerning the use of safety equipment, that the blasting material cannot contain silica sand, and that the blasting must take place in a separate area. Varner-Gruppen does not provide specific sandblasting training for workers

at subcontractors' facilities. Lefébure says: "We haven't heard about work-related accidents linked to this process in our supply chain. However, we fully understand that this is a process that requires great care to be taken". At the end of September 2010, Lefébure stated that the company had started an internal assessment process about sandblasting at Varner-Gruppen's suppliers. She revealed that this had shown that Cubus, BikBok and Dressman are currently not using sandblasting. Lefébure also says that sandblasting represents a small part of the company's total production. She adds: "We will continue with the evaluation and will present our stance on the process as soon as we have more information."

## WESC

WeSC claims that sandblasting does not feature in its production. The company's CSR manager, Rickard Josephson, says that this is due to factors concerning work environments and design. "I've been to a lot of workshops and feel that it isn't a good process for anyone", says Rickard Josephson. He continues: "You realise that this is a very unnatural process. The work environments are substandard and even if you use relatively good equipment it isn't good for the people working with it". Instead of sandblasting WeSC use manual sandpaper scraping to treat denim. WeSC does not have a specific sandblasting policy, because, as Josephson explains: "it is a part of the communication between the product developer and merchandiser responsible for the production of garments at the supplier".

## WHYRED

Whyred uses sandblasting in its production. It takes place at two of its direct suppliers located in Turkey. Previously, the process was also performed by suppliers in Portugal and Italy. CSR manager Jonas Claeson says: "We don't do that many jeans but see it as more of a complement to our other products. We don't work that much with wash-techniques, but of course we do sometimes. It is very minimal, not because of reasons concerning work environments, but our collections mean that we have very little to do with it." Whyred has no specific sandblasting policy, and it does not provide any training for workers involved in sandblasting.

## ÅHLÉNS

When the Fair Trade Center first contacted Åhléns at the end of August 2010, the company claimed that it used sandblasting in its production. Åhléns' own brand had produced a jean for the autumn collection that had been sandblasted. The method is being used at one of the two suppliers that Åhléns works with in China. When the Fair Trade Center asked Åhléns about the type of sand being used in the process, the company was unable to provide an answer. A month later the company stated that they did not use silica sand in blasting, but instead used chemicals to achieve the desired worn-out effect on denim. Åhléns does not have a specific sandblasting policy, but acting Information manager Carina Kampe says: "The suppliers we employ claim that they use safety equipment when treating the jeans, and that the treatment is performed in an isolated cabinet." Åhléns does not provide any training for these workers. On 23 September 2010, Kampe stated that "as of 1 October 2010, we will not be placing any sandblasting orders, and we will follow up the sandblasting issue with our suppliers".

# Conclusion

**S**andblasting of jeans and denim can cause chronic lung disease if performed without suitable protection. Everyone who buys these garments should be able to be sure of the fact that no worker has died, or will die, as a result of the way they were manufactured. Inhaling silica dust can cause silicosis, an incurable and lethal lung disease. How exactly such sandblasting is being performed varies from case to case, and probably from country to country. There has not been any documentation to describe the situation facing sandblasters in China, India, Bangladesh or Pakistan, for example, but unions and NGOs fear that the working conditions in these countries resemble those identified in Turkey.

The Fair Trade Center study revealed that sandblasting continues to feature in the production of three (Whyred, Varnergruppen and Nudie jeans) of the 17 clothing companies interviewed. During the compilation of the report H&M, Fabric Skandinavien, Gina Tricot, Inditex, Tiger of Sweden and Åhléns initially confirmed their use of sandblasting, but they later informed us that the process would be phased out of production from autumn 2010. Kappahl and Lindex have already banned sandblasting. Whilst many of the companies cite design reasons for the fact that they do not sell sandblasted garments, many also claim that this is a matter concerning work environments. The fact that H&M implemented a ban against the use of sandblasting demonstrates that even companies that have a specific sandblasting policy that is regularly followed up and involves training for workers, still cannot provide them with full control over sandblasting in their supply chains.

The study also reveals that clothing companies know very little about sandblasting, and surprisingly few of them are aware of the associated risks or have taken preventative action. A typical argument from these companies, even those in the process of phasing out the practice, is that sandblasting accounts for a very small proportion of total production. However, this is something that the Fair Trade Center regards as being an irrelevant defence since the workers concerned are exposed to potentially fatal working conditions. All companies have a responsibility for this regardless of the production volumes.

Before the use of blasting materials containing silica was banned in Turkey the method was widespread. According to research by the Turkish Solidarity Committee, the practice has significantly declined since the introduction of the ban. This also demonstrates that government action can have a significant impact on controlling (acute) silicosis. Many of the companies involved in this study have reported that sandblasting is performed by both main suppliers and subcontractors. Earlier Fair Trade Center studies show that clothing companies, and companies in other sectors, have less control over the working conditions at subcontractors compared to main suppliers, since it is often the main suppliers who control the subcontractors. It is therefore more likely that subcontractors will breach corporate ethical guidelines set by these companies.

When the Fair Trade Center first contacted the companies, six of them (Gina Tricot, Varnergruppen, Whyred, Nudie Jeans, Åhléns and Tiger of Sweden) were unable to confirm which type of sand was being used to blast their garments. Three companies (Gina Tricot, Tiger of Sweden and Whyred) have still not stated which sand is being used during sandblasting, whilst the other companies claim that they do not use

silica sand. Both Inditex and H&M have confirmed that sand containing silica has been used in factories supplying them.

Only five companies (H&M, Fabric Skandinavien, Inditex, Kappahl and Lindex) make specific demands on how sandblasting should be performed in their supply chain. The other companies (e.g. Gina Tricot, Filippa K and Åhléns) refer to the general demands on health and safety, and working conditions, as defined in their codes of conduct. The Fair Trade Center does not consider this to be enough. Companies should make specific demands concerning sandblasting, and they should apply the precautionary principle to monitor the working conditions in their supply chain.

Different methods used to achieve a worn look on denim vary in terms of results, costs, and health and safety. All of these methods entail an element of risk and not one is completely risk-free from a health and safety perspective. It is therefore difficult for the Fair Trade Center to recommend one method over another. Other studies, by the Clean Clothes Campaign, for example, show that recommendations regarding health and safety are seldom followed in the textile industry. Colouring of textiles, for example, is often performed in the informal sector, where workers are not given the necessary safety equipment and not properly trained about the considerable health risks involved.

There are also considerable difficulties involved in identifying which method has been used to treat denim from a consumer perspective. To determine whether a garment has been sandblasted (with or without the use of silica sand) or treated using other methods requires technical expertise about jeans production. Clothing companies therefore have a responsibility to prove to consumers that their jeans and denim garments have not put workers at risk of developing silicosis or other potentially fatal occupational diseases. One of the positive results of this study is that many companies have reacted quickly by claiming that they are in the process of phasing out the use of sandblasting. But companies should not be waiting for NGOs to draw their attention to the problems. They should work more preventively, always performing risk assessments when new production methods are introduced. The question remains as to whether the problems with sandblasting are just the tip of the iceberg.

# Recommendations to companies

- ▶ Ban the use of sandblasting in their supply chains if they have not already done so
- ▶ Companies that have used sandblasting should compensate affected workers, by providing medical treatment and relieving financial burdens resulting from their ill health
- ▶ Publicise all information concerning production (e.g. country/countries of production, suppliers performing sandblasting and audit reports)
- ▶ Set up mechanisms that enable companies to prove to consumers that their products have not been sandblasted
- ▶ Join credible multi-stakeholder initiatives that have experience of responsible production
- ▶ Cooperate with other companies to ensure that sandblasting will become a problem of the past as quickly as possible
- ▶ Cooperate with local organisations and unions in the producing countries
- ▶ Ensure good internal communication about the risks of sandblasting and other finishing techniques between the CSR, design and purchasing departments

# Recommendations to consumers

- ▶ Ask for denim products that have not been sandblasted
- ▶ Demand that brands ban sandblasting from their supply chains
- ▶ Demand information about the production process
- ▶ Demand that companies should even make demands on other brands
- ▶ Demand that companies should pay compensation to affected workers and their families
- ▶ Follow the debate on sandblasting

# Recommendations to governments in producing countries

- ▶ Legislate against the use of sandblasting in textile finishing
- ▶ Ensure that the required mechanisms and structures to monitor health and safety rules are in place and that they are functioning well
- ▶ Provide disability pensions to silicosis victims



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Gonzalez Busquets Aleix, CSR manager for technique Inditex  
Håkans Per, Marketing manager Tiger of Sweden  
Häglund Irene, CSR manager Fabric Skandinavien  
Josephson Rickard, CSR manager We SC  
Kampe Carina, acting Information manager AxStores  
Kindgren Eva, CSR manager Kappahl  
Lampa Henrik, CSR product manager H&M  
Larsson Elin, Supply manager Filippa K  
Lefébure Annabelle Ingeborg, CSR manager Varnergruppen  
Lindström Melker, CSR manager Nudie Jeans  
Munthe Therese, Production manager Acne Studios  
Sellberg Ylva, Sustainability coordinator J Lindeberg  
Winroth Sara, CSR manager Lindex  
Wärfors AnnaKarin, CSR spokesperson Gina Tricot

## OTHER INTERVIEWS:

Cappuccio Silvana, International Textile, Garment and Leather Workers Federation  
Prof. Dr. Kilicaslan Zeki, Solidarity Committee of Sandblasting Laborers  
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