

Does glove use amongst bricklayers increase their risk of musculoskeletal injury?

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Or

Are we replacing one hazard
with another?

Bricklayers

- ▶ Have a very high incidence of dermatitis
- ▶ Bricks and blocks physically abrade the skin
- ▶ Wet mortar (Portland cement) is:
 - Highly alkaline
 - May contain chromate
- ▶ Which can cause:
 - Irritant dermatitis
 - Allergic dermatitis

Dermatitis



Laying Bricks



Laying Bricks



HSE Recommendations

- ▶ Wear CE marked PVC gloves (example risk assessment for contract brick layers)
 - ▶ Wear gloves (Dermatitis – stage 4 control risk)
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What Types of Gloves do Bricklayers Wear?

“Marigolds”



Riggers Gloves



The Label




Builders Gloves




Builders Gloves – Publicity Shot



Do Bricklayers Wear Gloves

- ▶ Younger bricklayers have been made more aware of the problem of dermatitis – although many still do not wear gloves
 - ▶ Older bricklayers regard dermatitis as an “occupational hazard” and think that gloves reduce the “feel” needed for the job
 - ▶ Many construction firms now have a “gloves policy”
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Choosing the correct glove

- ▶ Fit
 - ▶ Comfort
 - ▶ Protection
 - Physical
 - Chemical
 - ▶ Lack of a suitable range of gloves often means a trade-off between fit, comfort and protection
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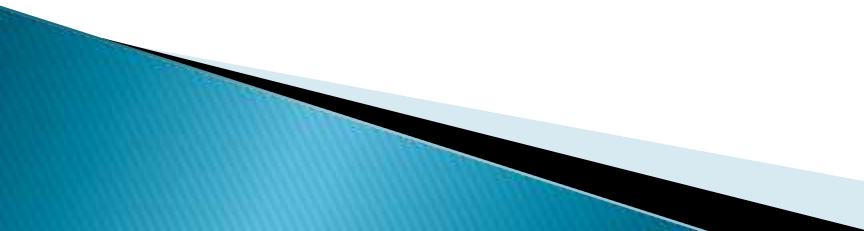
EN420 General requirements for gloves

- ▶ Ergonomy – comfort
- ▶ Innocuousness – no adverse affect on the wearer
- ▶ Will not harm user in normal use
- ▶ pH values between 3.0 and 9.5
- ▶ CrVI < 10ppm
- ▶ Standard sizing
 - 6 sizes
 - Or “fit for purpose”

What are the problems of glove use?

- ▶ Glove use is identified as a “risk factor” for musculoskeletal injury
- ▶ Why?
 - Increased mechanical resistance to hand movement
 - Increased muscle fatigue
 - Decreased tactile sensitivity
 - “Over-gripping”
 - Restricted blood flow to the hand
 - With tight gloves

Bricklayers and Musculoskeletal Injury

- ▶ Bricklayers have one of the highest rates of back and shoulder problems in the construction industry
 - ▶ The “claw-grip” used for lifting bricks is an ergonomically high risk grip that can rapidly lead to muscle fatigue
 - ▶ Hand / wrist joints are often at acute angles during the bricklaying process
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Bricklayers, gloves and musculoskeletal injury

- ▶ A study by the author that looked at 163 bricklayers in the South East of England
- ▶ 62% of the bricklayers surveyed stated that they wore gloves on a regular basis
- ▶ The study compared at reported pain or discomfort with a range of aspects of glove wear such as:
 - Glove vs no glove
 - Duration and frequency of wear
 - Glove type
 - Glove fit

Study Results

- ▶ Odds ratio analysis indicated a strong positive association between glove wear and the reporting of pain or discomfort
- ▶ Statistically significant relationships were also found between:
 - Frequency and duration of wear
 - Glove fit
 - Age of the bricklayer

Conclusion

- ▶ Glove use by bricklayers will increase their risk of musculoskeletal injury to the hands and arms
 - ▶ The risk can be minimised by ensuring that the gloves are:
 - Well fitting
 - Well designed to ensure maximum flexibility and comfort
 - Only worn when needed to protect the hands
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