

THE IMPACT OF INDOOR AIR QUALITY

ON HEALTH AT HOME AND WORK



INTRODUCTION

In recent times, spaces that promote wellbeing have been a central topic in the design and architecture industry. With 90 per cent of our time spent indoors, this is hardly surprising.¹ However, the intangible aspects of interiors that impact long-term health and affect user's wellbeing are often forgotten.



CONSEQUENCES OF POOR INDOOR AIR ON HEALTH

Indoor air is two to five times more polluted than outside air due to chemicals used in buildings and furniture, which are then sealed in.² Yet because air pollution is not an element that is easily identified, it often goes unnoticed.³ Around the world, exposure to air pollutants found indoors results in huge damage to public health – particularly in developing countries.⁴ The poor quality of indoor air is often not recognised until illnesses become manifest.

The list of effects of low quality air on health is long and concerning. They range from mild ailments such as tiredness, lethargy and headaches to more serious conditions like asthma and allergies.⁵ The problems associated with constantly breathing in polluted interior air are worldwide and indiscriminate. They are not relegated to one country or continent and bear influence on people from all economic spectrums.⁶

OFFENDING CHEMICALS: VOLATILE ORGANIC COMPOUNDS (VOCs)

According to the US Environmental Protection Agency, 'concentrations of VOCs are consistently higher indoors – up to ten times – than outdoors.'⁷ A VOC is one of a number of chemicals that evaporate or vaporise readily and are harmful to human health and the environment.⁸ Sources of VOCs include many household products like wood preservatives, aerosol sprays and disinfectants. While these products may be an obvious source of pollution, other more surprising culprits include building materials and furnishings, office equipment such as copiers and printers, correction fluids and carbonless paper.

Any health condition that manifests as a result of a product or material in a domestic or work environment is troubling, but more

serious illnesses are even more so as they will have long-term consequences for sufferers. While conditions like asthma and allergies are triggered by a number of factors – chemicals, smoke, mould, pollen and dust mites – they are often largely a result of poor indoor air condition. Outdoor air pollution also affects sufferers of asthma and allergies but the reality is that internal environments are much easier to alter and control.

Sensitive Choice, an initiative of the National Asthma Council Australia, makes a number of recommendations on how to create a 'healthy home' including simple suggestions like keeping a clean and hygienic kitchen to more extreme proposals like building and renovating.⁹

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Over 2.2 million Australian suffer from asthma with 80 per cent of these people also affected by allergies.
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– Australian Centre
for Asthma Monitoring

LONG-TERM COST OF INDOOR AIR POLLUTANTS

Not only does indoor air pollution have a huge impact on public health, it has massive repercussions for the economy. Over 2.2 million Australians suffer from asthma with 80 per cent of these people also affected by allergies.¹⁰ In 2015, a report by Deloitte for Asthma Australia and the National Asthma Council Australia on the hidden costs of asthma discovered that the respiratory condition is costing the government, families and carers \$28 billion per annum.¹¹ According to the Australian Government's Department of Health and Ageing: 'The CSIRO estimates that the cost of poor internal air quality in Australia may be as high as \$12 billion per year'.¹²



DESIGNING A HEALTHIER LIVING SPACE

While all surfaces and products are relevant, flooring is integral to creating a healthier living and workspace. Wood flooring company Mafi produces natural timber floors. The integration of Mafi timber floors in any work or domestic environment would set a strong foundation for a healthy space.

Mafi was the first company in the industry to design a lacquer-free, completely naturally oiled flooring surface. The oils used are based on natural raw materials. Mafi timber is completely preservative free, it is not smoked during the production and does not contain imodium. It is also the only flooring recommended by National Asthma Council Australia initiative Sensitive Choice.

Mafi boards come pre-finished in sanded or brushed surface, and an all-natural oil. The oil penetrates the wood's pores and, as it hardens, the surface becomes extremely hardwearing whilst allowing the wood's pores to remain open and breathe. These unique qualities of an all-natural finish ensures Mafi timber boards

are suitable for heavily frequented domestic and commercial areas, as well as over underfloor heating and in bathrooms.

Mafi's production process is completely devoid of chemicals and it recycles waste from beginning to end. The timber used is sourced from carefully managed forests in Central Europe and is fully sustainable. In its drive to get the most out of every tree, Mafi is constantly pushing innovation in its production processes. Offcuts and sawdust are recycled and made into pellets that are used to heat and power the Mafi factory. To achieve the darker colours in the Mafi range, timber boards are baked using only heat, wind, water and time.

At a time when periods spent indoors – at school, in the workplace or at home – are constantly increasing, the emphasis placed on healthier interiors must also grow. Companies like Mafi are taking the importance of improving interiors seriously – investing in research and education about its products – and the people living and working in them need to as well.

“ Inside air is up to five times more polluted than outside air. ”

- United States Environmental Protection Agency

POOR INDOOR AIR QUALITY CAN LEAD TO:

- Tiredness
- Sore muscles
- Breathing trouble
- Dizziness
- Enhanced allergies
- Asthma

AIR POLLUTANTS COMMONLY FOUND IN INTERIORS:

- Volatile organic compounds (VOCs)
- Formaldehyde
- Propylene glycol and glycol ethers (PGEs)
- Cigarette Smoke
- Fragrances

ABOUT MAFI

Mafi is a wood flooring company with origins and manufacturing facilities in Austria. Mafi opened in Australia in 2008, and since then have grown a wide client base across Sydney, Melbourne, Adelaide, Perth and Brisbane. The Mafi Australia HQ is located in the suburb of Alexandria in Sydney. Woodos distributes Mafi in Australasia and has showrooms and warehouses in Sydney, Melbourne and Singapore.

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