

편안함, 그 이상의 가치

Beyond Comfortable



www.xsoleshop.com / www.xsole.co.kr / www.ycsole.com

X-SOLE Comfort

X-SOLE COMFORT is the high functional shoes which adopt the manufacturing technologies accumulated for the past 30 years.

As it adopts the world patented "Air Flow Insole" and "Dual density Midsole", it is good in absorbing the impact and reducing the fatigue, thus preventing the wearer from getting injuries and helping the wearer to have the happiness in walking. This is new types of comfort shoes.



1. Composition of product

- **Wire Lacing System:** provides the function of easy-to-wear.
- **Genuine leather upper:** gives the excellent wearing sensation
- **Dual Density Midsole:** reduces the impact from ground
- **2way Dual Airbag:** has the arch support and impact reduction.
- **Non-slip rubber outsole:** prevents the slippage.



① Wire Lacing System



As it has the wire lacing system made of wire and dial instead of the conventional shoestring, it is easy to tighten or loosen at anytime, anywhere.

* If you want to tighten it, turn it right from the wear's position. Just lightly pull up the dial to release it.

② Genuine leather upper & Alpha Skin

The natural leather applied to the upper provides the wearer with the excellent wearing sensation and prestige. As time goes by, the prestige goes up.

In addition, Alpha Skin which is used as the inside skin of the shoes is the functional material having the best water-proof and wind-proof. With the excellent air permeation and moisture transmission functions, it makes the inside of the shoes comfortable.



③ Non-slip rubber outsole



With the application of non-slip outsole to the surface directly contacting the ground, the shoes have good grip force on the ground under any bad conditions, thus preventing the wearer from any slippage and reducing the risk of injury.

④ Dual airbag insole (Air Flow Insole)

Anti-bacterial & odor fabric

High resilience sponge

Shock absorbing Dual Air Bag

High resilience heel cup



- The dual airbag is designed to connect the heel section to the arch section (pes cavus). It provides the wearer with the good impact absorption and the soft arch support in walking. Through this, the musculoskeletal pain is alleviated and the stability is enhanced.



*Structure and effect of Air Flow Insole

- The air bags which are located for heel and arch each are connected that the air in both airbags are supposed to circulate on a continual basis between two sections. Through this structure, when the foot reaches the ground, a part of the air in the heel airbag moves to the arch airbag, and that reduces the responsive elasticity caused by the increase in the pressure and also maximizes the effect of absorption of impact on the heel. So, when the body moves forward, the load on the arch increases, thus increasing the pressure in the arch airbag. In this case, a part of the airbag moves back to the heel airbag to keep the pressure at the proper level. If that happens, there is no pain on the arch and the foot is elastically supported.

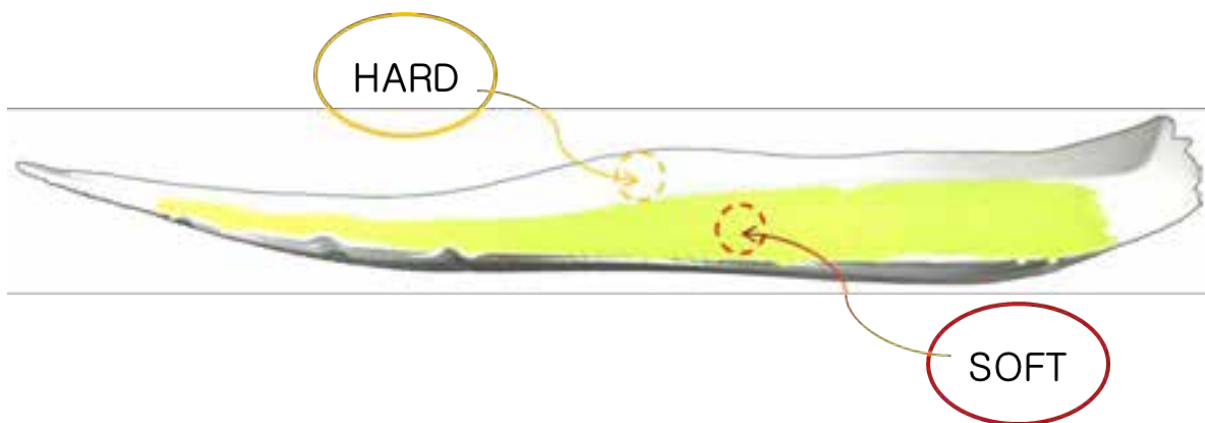
- In addition, the anti-bacteria and anti-odor synthetic fiber is applied to the part which directly contacts the foot, thus removing the odor away from the shoes and wearers foot. With the adoption of ergonomic design, the sole is designed to be closely stuck to the shoes, thus preventing the injuries and getting the maximum athletic ability.

⑤ Dual Density Midsole

- The midsole is located between outsole and insole and acts as the shock absorber. In the running shoes, it is manufactured in a way that the materials having good capability to absorb the impact are added.

But the dual density midsole applied to X-Sole Comfort is as follows.

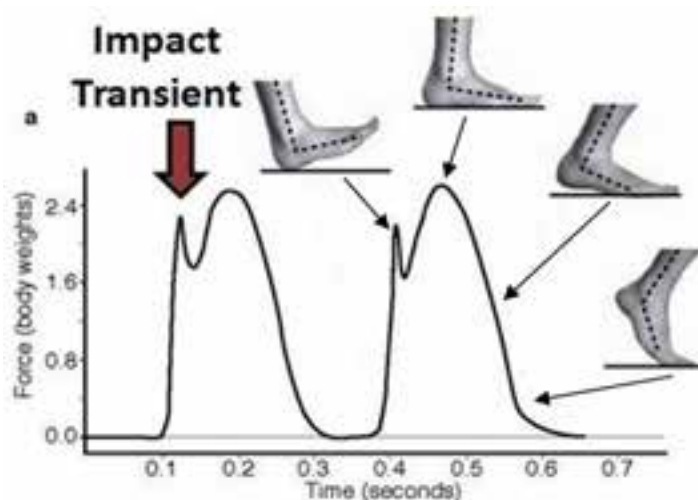
- The alleviating, supporting and elastic materials are covered by the wearing resistant materials in the non-adhesive process, thus improving the impact absorption function and minimizing the deformation. Having the hard materials used on the outside, the midsole supports the body in a way that the foot does not move left and right.



* Is it OK if the midsole is soft only?

It is said that the contact stage when the foot contacts the ground takes up 27% of the total time of standing on foot on the ground. Especially when the heel contacts the ground, the instant impact happens. At this point, the impact absorption function is required.

If the part of heel is overly made with soft materials to give full impact absorption, the ankle would lose the stability or the wearer fall down when the heel contacts the ground, causing a big injury. So, the materials shall be selected in a way that both the impact absorption and the stability can be added at the same time.



2. Composition of model

- Size table

	225	230	235	240	245	250	255	260	265	270	275	280
W's												
M's												



XCW2101 (여성용 W's)



XCM1101(남성용 M's)

W's (여성용)



XCW5860



XCW1330



XCW7600



XCW6700

M's (남성용)



XCM8975



XCM4780



XCM5615



XCM5950

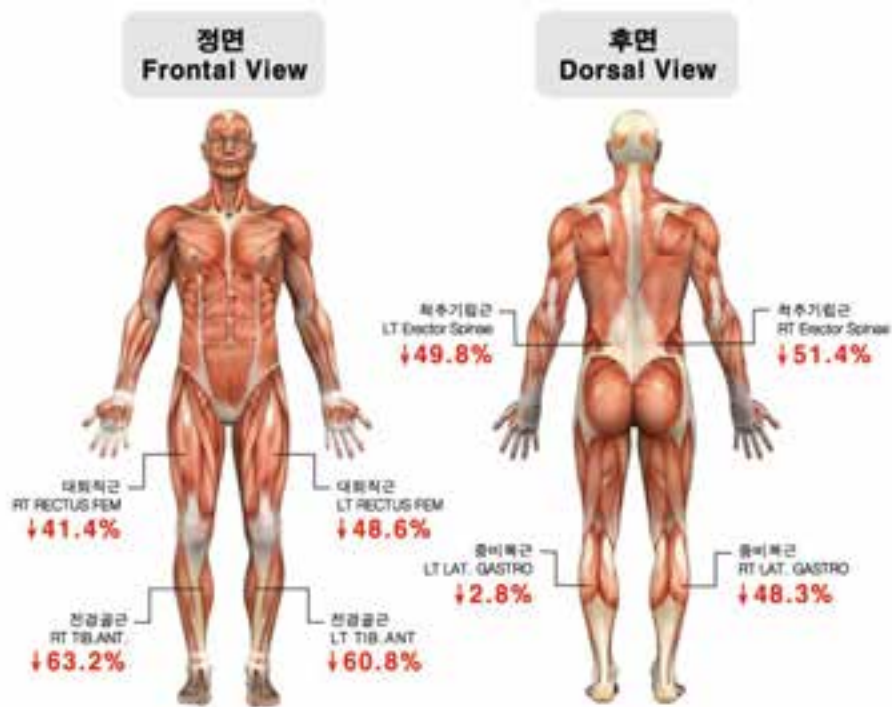


XCM7065

3. Key functions

④ Anti-Fatigue

It was found according to the test established by Korea Research Institute of Standards and Science (KRISS) that this model reduces the fatigue by 46.8%.



* Testing method proposed by KRISS

① Measure the maximum voluntary contraction for each muscle (MVC-100%).



② Walk on the treadmill in the speed of 3km/se for one hour.

③ Measure the maximum voluntary contraction for each muscle (MVC-100%) again.



* Compare the MVC values between before and after.

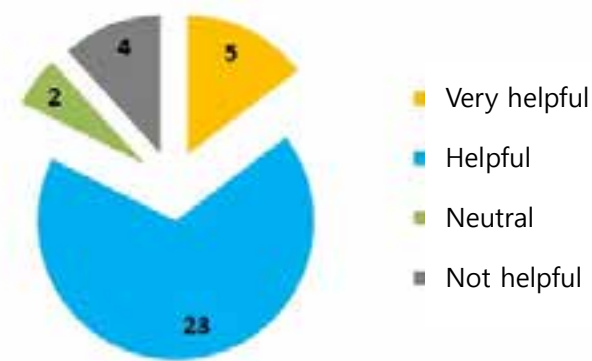
② Plantar Fasciitis, Flatfeet correction

The result of the experience of wearing for 1 month of the product released by senior friendly center, Happy Senior, which measures the usability of products friendly to senior citizen, shows that the product has the positive effect on **the alleviation of impact to the heel, walking correction and reduction in the foot fatigue**. Especially, the product has big effect on the correction of plantar fasciitis or flat feet.

* Result of the usability of product by Happy Senior

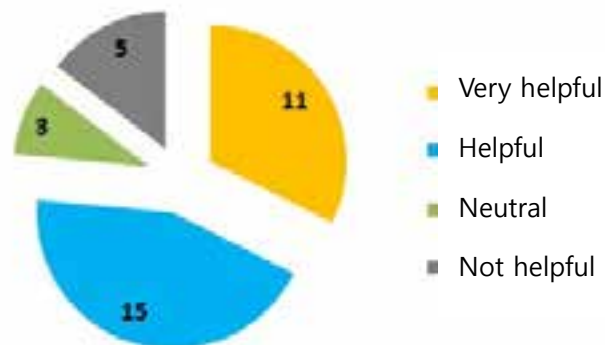
Decrease in impact of heel

(82.3% positive response)



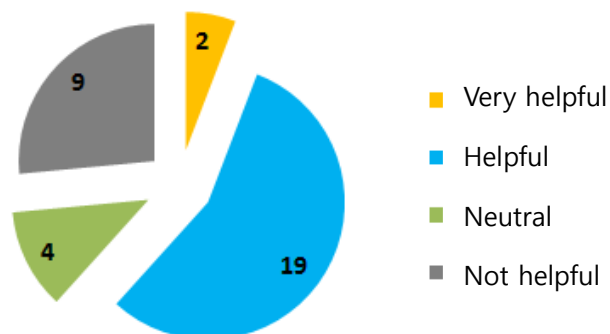
Walking correction

(76.5% positive response)



Reduction in the foot fatigue

(61.8% positive response)



* Test of wearability by general people

○ **Angular deformity**

- There was a person among our staff, who showed the severe angular deformity. The person showed the excessive wearing on the heel of the shoes.
 - ⇒ We checked him after he put on X-sole Comfort for 6 months. We found out that his shoes have the wearing in the same way as those of other normal people.

○ **Hallux valgus**

- A woman in 60s suffered the hallux valgus on both of her feet for 30 years. Recently, the symptom got severe and the going out became impossible. To treat the symptom, she got the surgery on the left foot which got severe pain. But, the pain did not disappear. During the recovery after the surgery, more pressure was forced on the left foot, thus aggravating the symptom of left foot and making it impossible for her to walk.
 - ⇒ After wearing X-sole Comfort, she could reduce a lot of pains on both of her feet. She finally could walk and go out.

○ **Flat feet**

- A middle school girl with the height of 155cm got a flat foot. If she had to stand for a long time in morning meeting, she got hot feet and suffered pains.
 - ⇒ After wearing X-sole comfort, she did not feel the hot feet and pain no more even in standing for long time. Even in the daily life, she felt the fatigue has reduced.
- A middle aged man with the height of 180cm suffered a severe pain due to the flat foot. Though he bought the special insole, the pains still remained. As the sensation of wearing is not good, he hated to put on the insoles.
 - ⇒ He put on the X-sole Comfort. Then, the pain disappeared. As the product has good sensation of wearing, he likes to wear the product.

○ **Plantar fasciitis**

- A man in 50s was diagnosed to have the plantar fasciitis at a hospital when he went to the hospital due to the pains in the sole.
 - ⇒ After wearing of X-sole comfort, he did not feel the pain.

③ Knee and ankle pain relief

Air flow insole and dual density midsole minimize the reaction from ground, which occurs when the heel reaches the ground in walking and inhibits the excessive joint rotation, thus reducing the pain in ankle and knee.

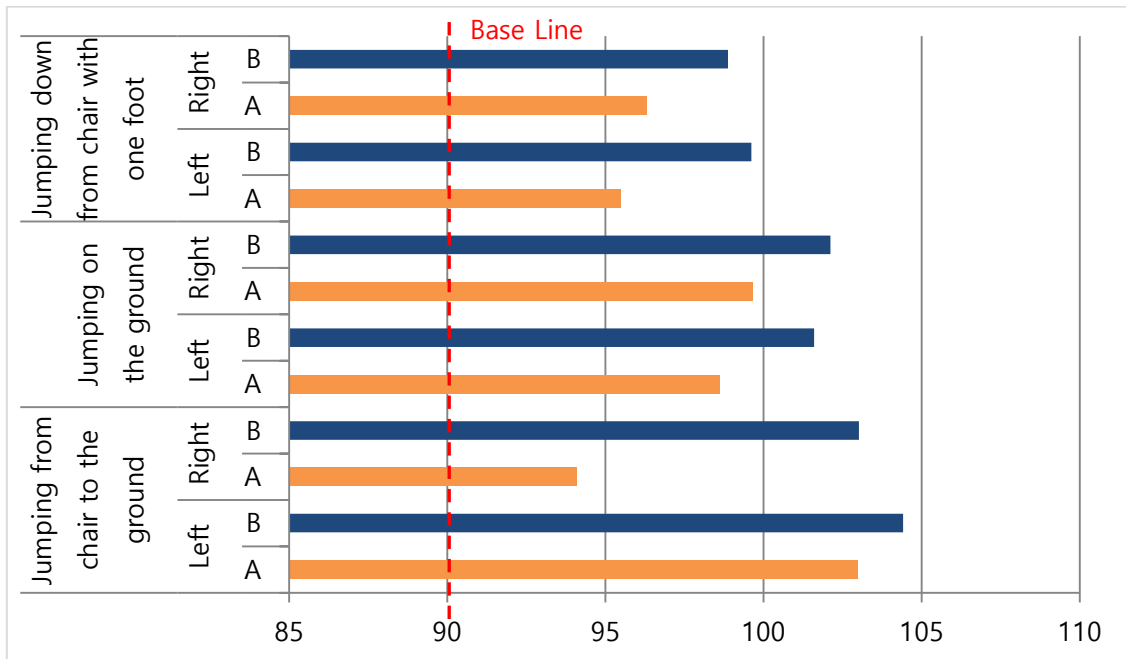
* Comparison test between our brand X-Sole Comfort (Type A) and V brand Comfort (Type B) conducted by KRISS(Korea Research Institute of Standards and Science)

- It measures the angle of ankle and maximum foot pressure when the wearer jumps down from the chair on the ground, in order to evaluate the comfort and impact absorption.
- The posture for jumping down is made with jumping down from chair, jumping on floor, jumping down from chair on right foot only and jumping down from chair on the left foot only.



Test in KRISS

a. Keeping the angle of ankle (A (X-SOLE COMFORT) > B (COMFORT SHOES made by V))

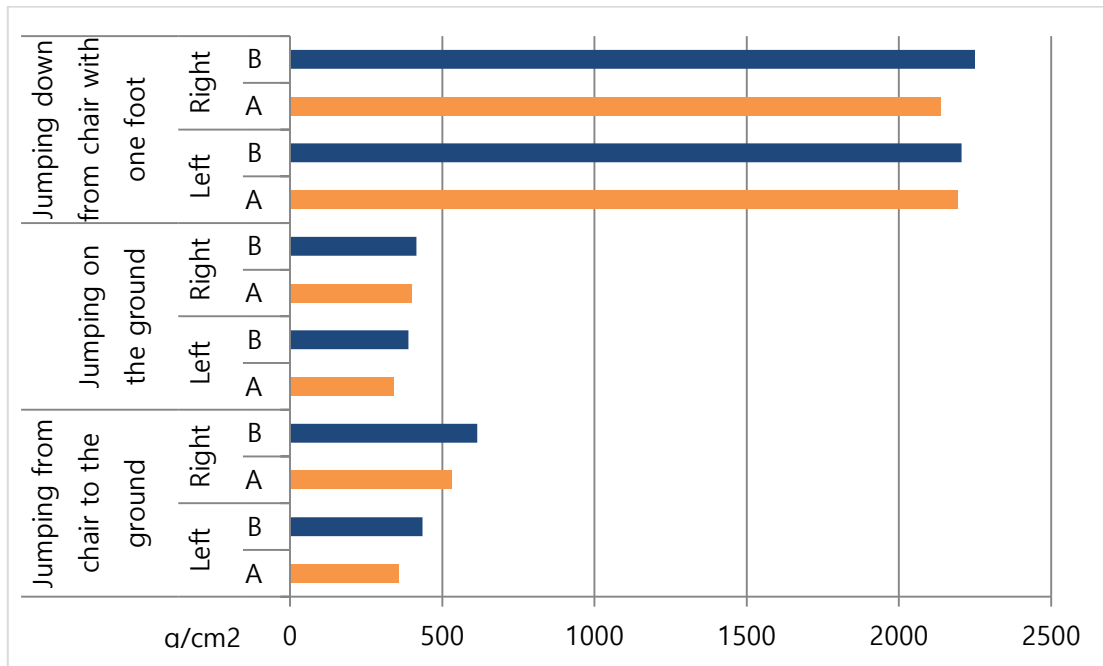


- The test is done with the angle of ankle when the wear lands on the floor in jumping down from chair with one foot (left/right), jumping on the ground and landing on the ground, and jumping from chair and landing on the ground based on the 90 degree which is the natural state for the ankle.

- If the ankle bending angle is farther from 90 degree, it means that the ankle is bent more. This means that the ankle is more vulnerable to the injuries due to the excessive moving and impact.

- The results of the test showed that X-Sole Comfort (Type A) shows less bending of ankle than Comfort Shoes made by Company V (Type B). It means that X-sole Comfort prevents the human ankle from excessive moving and impact, thus reducing the danger of injury.

b. Decrease in impact (A(X-Sole Comfort) > B (Comfort shoes manufactured by V))



- The maximum foot pressure is used as the indicator in measuring the reduction in the impact. The peak pressure point is searched which shows the most in each test and the values are measured and compared.

- The result of test show that Type A (X-sole comfort) is better than Type B (Comfort shoes made by V) in all impact absorption tests with more impact absorption effect of 18% mix or 10% average.

c. Test result

A = X-SOLE Comfort, B = V brand Comfort shoes

		Keeping the angle of ankle and decrease in impact		Statistical significance	The angle of ankle and Peak pressure point of the foot	
The Angle of ankle	Jumping from chair to the ground	Left	A > B	True	A : 102.98 degree B : 104.41 degree	
		Right	A > B	True	A : 94.08 degree B : 103.02 degree	
	Jumping on the ground	Left	A > B	True	A : 98.61 degree B : 101.60 degree	
		Right	A > B	True	A : 99.67 degree B : 102.12 degree	
	Jumping down from chair with one foot	Left	A > B	True	A : 95.49 degree B : 99.62 degree	
		Right	A > B	True	A : 96.30 degree B : 98.88 degree	
	Shock absorption	Jumping from chair to the ground	Left	A > B	True	A : 355.02 g/cm ² B : 435.04 g/cm ²
			Right	A > B	True	A : 530.84 g/cm ² B : 615.37 g/cm ²
Jumping on the ground		Left	A > B	True	A : 340.37 g/cm ² B : 388.83 g/cm ²	
		Right	A > B	True	A : 398.97 g/cm ² B : 414.75 g/cm ²	
Jumping down from chair with one foot		Left	A > B	True	A : 2192.10 g/cm ² B : 2205.63 g/cm ²	
		Right	A > B	True	A : 2136.88 g/cm ² B : 2249.58 g/cm ²	

④ Stability enhancement and Injury prevention

The experiment conducted by Sports Psychology Lab, Hanyang University showed that the arch of the heel and sole is filled by the air bag in walking to strongly support the lower limb and get the broader supporting ground, thus enhancing the walking stability and the prevention of injuries due to the excellent impact absorption.



In general, the insole does not support the heel and the foot arch that the load on the heel negatively affect the motor control of the human body, thus causing the continuous fatigue to the muscle and tendon connected to the lower limbs and the spinal muscles such as backbone erector, gluteus maximus, rectus abdominis and musculus obliquus abdominis internus and VDT (cumulative trauma disorder: musculoskeletal disorder).

In addition, the test shows that if the arch of the foot gets flatten, the area contacting between the foot and the ground get wider, thus enhancing the stability of the walking. So, if the air bag insole is worn, it fills the arch in the heel and insole and broaden the contact area between bottom of shoes and ground, thus strongly supporting the human body and making the positive effect on the walking stability and impact absorption.

⑤ Fall Prevention

By elastically supporting the arch without causing any pain, it corrects the general musculoskeletal posture, prevents the pain and stabilizes the walking posture, thus preventing the fall. In addition, the slippage caused by the external factor is prevented by the outer sole which is applied with non-slip materials.

The comfort of foot gives you the vitality in daily life and keeps you from the risk of all kinds of diseases.



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