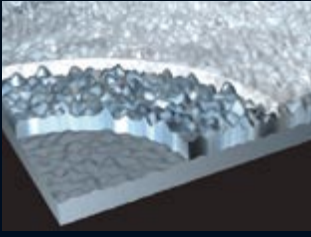




LifeLine™ CS
PVC-free Contract Sheet Flooring





A new generation flooring for public spaces

Developed by Upofloor for public spaces, LifeLine™ CS is a flooring manufactured with a unique, ecological material combining the best features of natural minerals with pure thermoplastic polymers. The combination of the material's and flooring's special structure creates a highly functional flooring outstanding in terms of its overall economy. LifeLine CS suits all public spaces, withstands the roughest use and is easy to keep clean.

LifeLine makes you feel good; it is a safe choice for people and the environment.



LifeLine is the market's only flooring that uses only natural minerals and pure, plasticizer-free polymers as a binding agent.

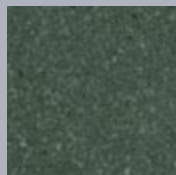


Elegant patterning, wide selection

The patterning of LifeLine CS flooring is uniformly restful, yet vigorous. Depending on the colour and tone selected, LifeLine CS can function as a restrained, almost single-colour background, or become a powerful element actively shaping the character of the space.



The colour selection is impressive: 48 beautiful alternatives. The backbone of the collection is the extensive range of greys. Besides the neutral greys and greys with greenish, bluish, reddish and yellowish tints, the collection features ample choice of blues, soft reds and greens, earthy browns and vivid accent colours.



There are plenty of solid colours, but the collection's real strength lies in its colour combination possibilities. For example, rich earth tones will appear delightfully different depending on the grey scale with which they are co-ordinated. The collection's colours have been coaxed, in a manner of speaking, to play in the same key.



Thus designers can boldly play with various colours and tones to create a distinctive interior décor.



Combining the main colour with lighter and darker complimentary shades creates LifeLine CS's patterning. In the production process the colours are mixed as water-colour-like chips, creating a light, uniform and multi-purpose pattern. LifeLine CS's pattern is non-directional; in other words it looks the same when viewed from any direction. The non-directional texture is particularly well suited in spaces with complex shapes.





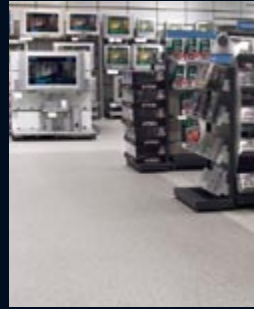


For hygienically demanding conditions

Hygiene is further enhanced with welded seams, covered-up skirting and/or LifeLine skirtings; this creates joints between the floor covering and walls that are reliable and tight. LifeLine CS flooring is an excellent choice for hygienically demanding conditions such as hospitals and day-care centres. The flooring rejects grime and does not act as a substrate for bacterial growth, ensuring easy maintenance, and the compact ionomer-impregnated wear layer prevents dirt from penetrating into the construction. LifeLine features an excellent resistance to chemicals such as acids, alkalis and solvents, and does not react to rubber. Additionally, disinfectants, hand rinsing materials or other hospital chemicals will not leave marks on the flooring.







LifeLine is made to last

LifeLine has all the properties required of a heavy duty flooring material. Its ionomer-impregnated wear layer is the same material as a golf ball, so its resistance to wear, indentation and scratching is excellent.

LifeLine belongs to the best wear group T; it stands up well to wheelchair stresses and even forklift traffic. This durability means a long service life and overall economy for public premises subject to extremely heavy wear such as department stores, schools and hospitals.

LifeLine flooring's wearing surface is the same material as a golf ball, so its resistance to wear, indentation and scratching is excellent.



No plasticizers are used in the manufacturing of LifeLine flooring. Because of their possible risk of health hazards, the use of some phtalate plasticizers is limited in EU, for example, in toys for children under the age of three.



EMISSION CLASS FOR BUILDING MATERIAL
M1

LifeLine CS ensures good indoor air quality

LifeLine creates no indoor air problems because it contains no substances, such as plasticizers, stabilizers or heavy metal, that could be health hazards. Owing to its slightly embossed surface, LifeLine provides excellent slip resistance, a safety factor valued particularly in day-care centres, schools and retirement homes.

In possible fire situations LifeLine does not generate such toxic combustion gases as traditional vinyl and rubber floorings. Therefore it's the safest choice for all public premises.

LifeLine CS's environmental impacts and life cycle properties comply with ISO standards.

Low maintenance costs are an important part of LifeLine CS's overall economy.





Ionomer surface – no polishing



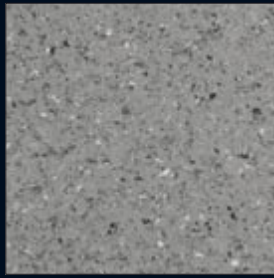
Life cycle costs are significant selection criteria when choosing a flooring. Easily maintained Life-Line CS flooring, in terms of its life cycle costs, is highly economical flooring from the viewpoints of property owners, users, maintenance personnel and the environment.

LifeLine CS's ease of maintenance is based on its ionomer-impregnated surface that prevents the penetration of dirt. The wearing surface is the same material as a golf ball and features excellent resistance to chemicals such as acids, alkalis and solvents. The flooring also withstands liberal applications of water and does not require polishing.

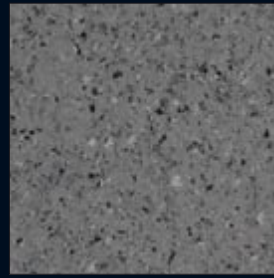
The flooring's excellent scratch resistance, and its antistatic and slightly embossed surface also facilitate cleaning. A mop slides over the flooring lightly, dirt is loosened quickly, and moving furniture is also easy.



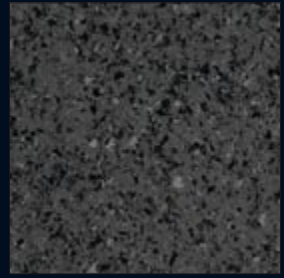
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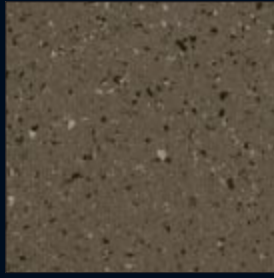
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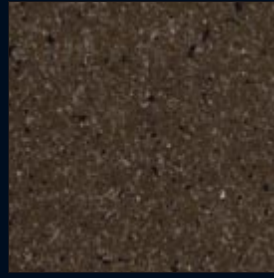
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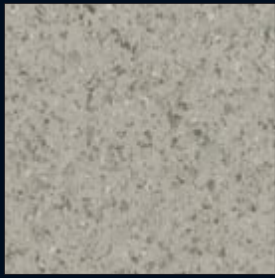
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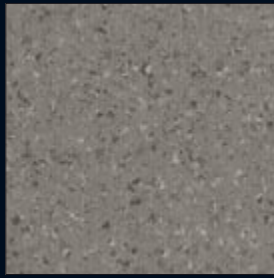
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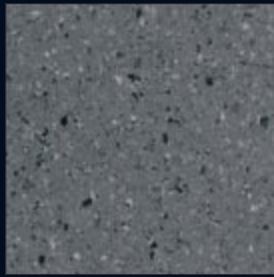
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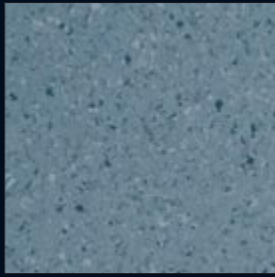
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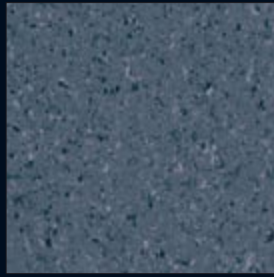
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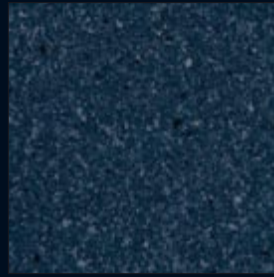
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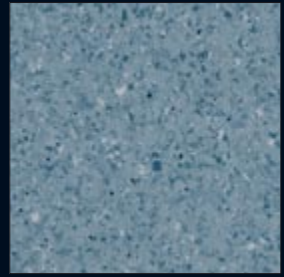
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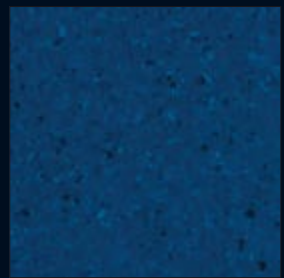
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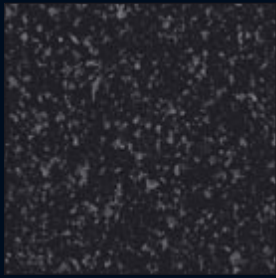
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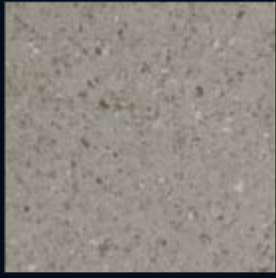
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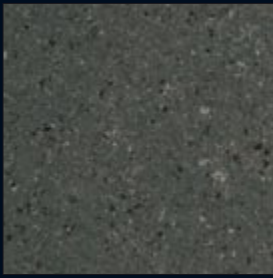
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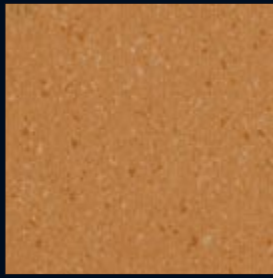
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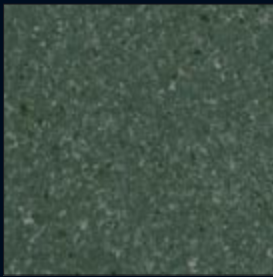
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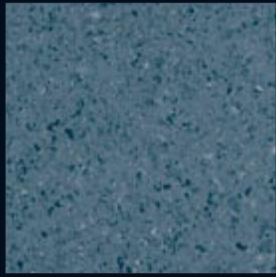
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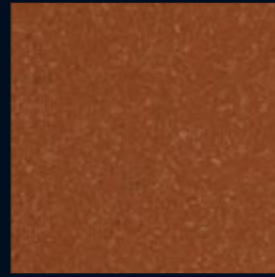
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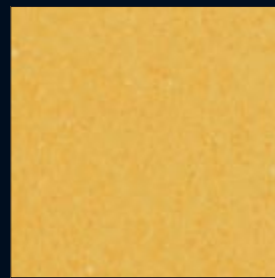
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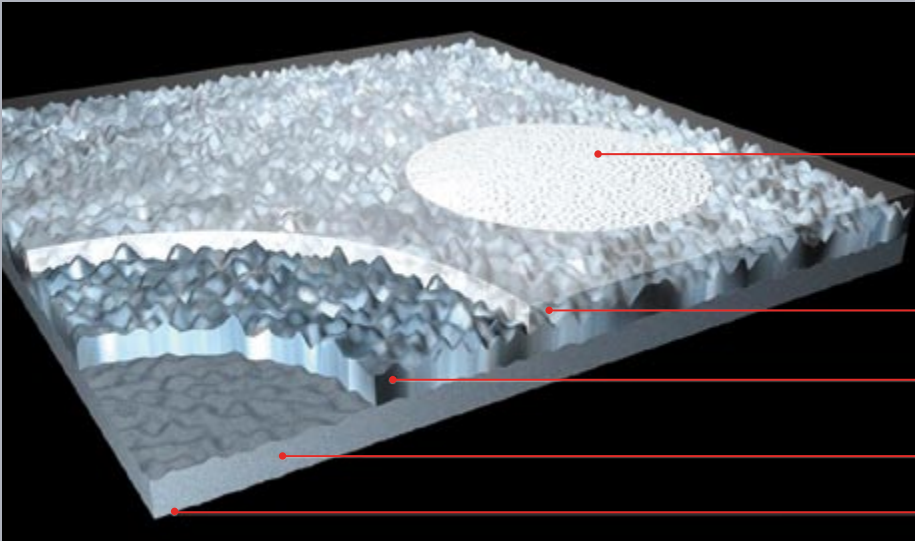
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The colours may have changed slightly in printing.

Scale 1:2



- slightly embossed surface structure – holds up under feet, easy to maintain
- ionomer-impregnated wear layer absorbed into the pattern layer
- pattern layer: 3-coloured chips
- base layer made of recycled material
- roughened backing – good adhesion

LifeLine CS material: natural minerals 60%, thermoplastic polymers 40%. Manufactured 100% plasticizer-free.

A refined and compact surface

The LifeLine product family includes a wide range of PVC- and plasticizer free welding rods and skirting. The welding rods are available in 48 colours, each matching its equivalent LifeLine CS colour.

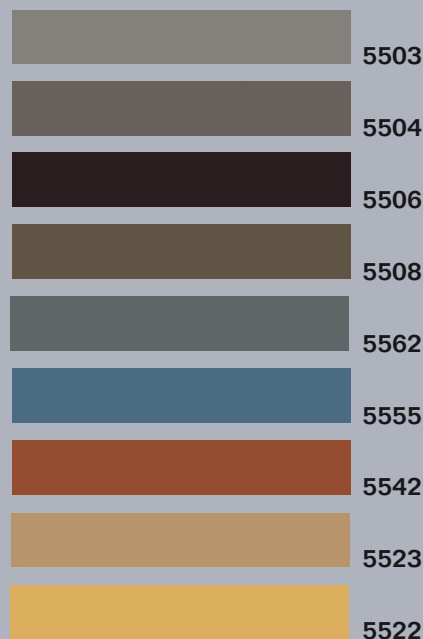
Skirting comes in two sizes: G70 PF, height 70 mm, and G100 PF S, height 100 mm.

A collection of nine colours has been selected from the welding rods' colours, which makes it possible to use identical colours for welding rods and skirting.

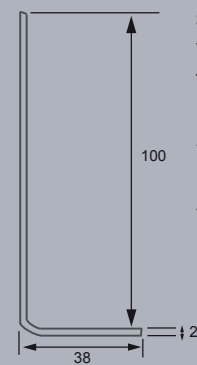
Skirting

Skirting	Height	Roll length
G70 PF	70 mm	50 m
G100 PF S	100 mm	40 m

Skirting G70 PF and G100 PF S Colours



The colours may have changed slightly in printing.



Skirting G100 PF S, weldable

The skirting G100 PF S is welded into the flooring, resulting in a tight joint between floor and wall.



Skirting G70 PF

Traditional skirting, height 70 mm.

Flash coving

Compact joints at junctions between floors and walls can also be achieved by turning up the flooring's edges at walls as coved skirting; the skirting's height, as well as the width on the floor, can be designed as desired. Skirting made from LifeLine CS impart a consistent appearance to the space. Solid colour skirting can also be implemented with Upofloor's Estrad Plano flooring. The extensive range of colour combinations offers a wealth of possibilities, and additional interest can be created with differently coloured welding rods.

Coved skirting: LifeLine CS flooring



Coved skirting: Estrad Plano flooring



Installation

LifeLine CS is made of a completely new kind of flooring material whose functional properties outshine those of its competitors. It is installed using normal installation methods, but achieving the best possible finished results requires a close adherence to the manufacturer's instructions. Gluing should only be undertaken with adhesives approved by Upofloor (a list of approved adhesives can be found at www.lifelinefloors.com or on LifeLine CS packages).

When installing the flooring the concrete floor's relative humidity should not exceed RH 85%. The installation temperature should be at least +18 °C. The flooring should be installed with an Upofloor-approved water-based acrylic dispersion adhesive. The adhesive should be spread with a fine-toothed trowel and the quantity of adhesive, depending on the sub-floor, adhesive brand and conditions, should be approximately 200 - 250 g/m². The flooring should be rolled while the adhesive layer is still fresh. The roll weight should be 50 - 70 kg. Rolling eliminates the emergence of the adhesive trowel's patterning, as well as the appearance of indentations caused by traffic and furnishings in the finished flooring. Avoid walking



or placing furniture on the flooring while the adhesive layer is still fresh. The flooring's seams and coved skirting are welded with LifeLine welding rods. Corners are also welded. To avoid differences in gloss, a consistent welding temperature and speed should be used.

NOTE! To avoid surface damage, the flooring should not be heated excessively while coving up edges and at floor drain installations.

Maintenance

LifeLine CS is easily maintained by hand or with machines. The compact and hard surface does not scratch easily, nor can dirt penetrate the wear surface. The surface's friction is low, so that mopping is easier, and furniture can be shifted easily. The slightly embossed surface structure however means that the floor is safe for walking.

Initial cleaning

Remove loose dirt. Wash with neutral or mildly alkaline cleaning agents and rinse. A combination machine, floor polishing machine or an abrasive cleaner with a red disk can be used.

Polishing is not required

Regular maintenance

Remove loose dirt. Depending on the size and condition of the space, a moist cloth, wet mop, or combination machine with a red disc or medium-strength brushes. can be used. Cleaning with a SHS machine and conditioner is also recommended. Use neutral or mildly alkaline cleaning agents and conditioners.



LifeLine CS

Product Information

Product	Resilient contract sheet flooring. PVC- and plasticizer-free, with ionomer-impregnated wear layer.
Application	Heavy wear public spaces, e.g. hospitals, schools, shops, offices, day care centres, retirement homes.
EN 685	21 – 43

Technical specification

Property	Test method	Result
Thickness	EN 428	2.0 mm
Weight	EN 430	3200 g/m ²
Roll length	EN 426	10–25 m
Roll width	EN 426	145 cm

Product properties

Property	Test method	Result
Fire resistance	EN 13501-1	C _{fl} – s1
Emissions	FLEC	M1
Residual indentation	EN 433 (2,5 h)	< 0.05 mm
Effect of heat on length dimensions	EN 434 (6h 50 °C)	< 0.2 %
Effect of castor chair	EN 425	No effect
Abrasion resistance	EN 660-2	Group T < 2.0 mm ²
Colour fastness	EN 105 – B02	7
Slip resistance	EN 13893	> 0.3
Flexibility	EN 435	20 mm
Electrical propensity	EN 1815	< 2 kV (antistatic)
Tensile strength of seam	EN 684	> 400 N/50 mm
Water vapour transmission	EN 12572	1x10 ⁻¹² kg/m ² sPa
Underfloor heating		Suitable (max temp. 28 °C)
Impact sound insulation	ISO 140-6 ISO 717-4	ΔL _w appr. 3 dB
Resistance to burning cigarette	EN 1399	4 (5 best)
Chemical resistance		Excellent resistance to acids, alkalis, solvents
Bacterial growth		Does not act as a substrate for bacterial growth

Resistance to Chemicals

Because of its ionomer-impregnated wear layer LifeLine CS has an excellent resistance to various chemicals, acids, alkalis and solvents. The material also does not react with rubber.

Effect of chemicals

Test periods were 2 hours and 24 hours, after which the chemical was washed off and the results assessed.

X – No effect V – Slight effect

Chemical	2 h	24 h
Acids		
HCl 10 %	X	X
Citric acid 10 %	X	X
Acetic acid 10 %	X	X
Sulphuric acid 10 %	X	X
Alkalis		
Lye (sodium hydroxide 10 %)	X	X
Soda (sodium carbonate 10 %)	X	X
Ammonia 5 %	X	X
Alcohols		
Ethyl alcohol 30 %	X	X
Ethyl alcohol 70 %	X	X
Ethyl alcohol 90 %	X	X
Isopropyl 70 %	X	X
Aromatic substances		
Phenol	X	X
Xylene	X	V
Unleaded gasoline	X	X
Crude oil	X	X
Light fuel oil	X	X
White spirit	X	X
Miscellaneous		
Wine vinegar	X	X
Acetone	X	X
Bleach solution 5 %	X	X
Olive oil	X	X
Kerosene	X	X
Silver nitrate 5 %	X	X
Chlorhexidin	X	X



Application

Classification according to the EN 685 21-43 standard (from domestic use to light industrial use). Flooring for public premises subject to extremely heavy wear; department stores, schools, shops, hospitals, offices, day care centres, retirement homes. Also suits facilities with floor drains.

Composition



LifeLine CS is manufactured using a new flooring material, 60 % of which is natural minerals and 40 % is thermoplastic polymers, with an ionomer-impregnated wear layer. LifeLine CS's heterogeneous structure has facilitated the optimisation of its durability, ease of maintenance and installation with environmental friendliness. The base layer of LifeLine is made of recycled material.

Wear resistance



LifeLine CS is suitable for heavy-duty applications and has a long service life. Its ionomer-impregnated wear layer provides superb scratch and wear resistance. In terms of its durability LifeLine CS belongs to the best wear group T (EN 660-2 – Frick-Taber test) and also withstands forklift traffic.

Fire resistance



LifeLine CS does not support combustion in fire situations, nor does it generate toxic combustion gases such as hydrogen chloride or hydrogen cyanide. Because of its low flame spread, low smoke, and low heat production, the flooring belongs to fire class Cfl – s1 according to standard EN 13501-1.

Installation



LifeLine CS flooring is installed with Upofloor-approved water-based acrylic dispersion adhesives.

The backing has been roughened to maximise adhesion. Seams and coved skirting are made using LifeLine welding rods; see www.lifelinefloors.com.

Maintenance



LifeLine CS's compact ionomer-impregnated wear layer rejects dirt, making maintenance easy and economical. The flooring features an excellent resistance to chemicals such as acids, alkalis and solvents, and does not react to rubber. Because the flooring requires no polishing, life cycle costs remain low. Dirt accumulated during the construction phase can be easily removed after installation and the spaces can be quickly taken for productive use.

Safety

LifeLine CS is a 100% plasticizer-free flooring and emits no substances hazardous to health. Its indoor air emissions are extremely low. The material does not act as a substrate for bacterial growth. LifeLine CS is an antistatic flooring (electrical propensity <2 kV according to standard EN 1815). The slightly embossed surface provides excellent slip resistance (EN 13893: > 0.3). The product's manufacturing complies with ISO 9001 and ISO 14001.

Environment



LifeLine CS is made of safe raw materials and its production is ecologically sound. LifeLine contains no halogens, chlorine, plasticizers, stabilizers or heavy metals. The new production line has a low energy demand. The material is recyclable during production, can be disposed of by burning, and can be used as an energy producing waste. Only small amounts of water and chemicals are required for maintenance. LifeLine has a long service life and low life cycle costs.



The Finnish company Upofloor Oy, part of Karelia - Upofloor Oy, manufactures and markets floorings for both public premises and homes. Upofloor was established in 1955 and is the market leader in its field in Finland. Upofloor operates in accordance with an ISO 9001 based quality management system and an ISO 14001 based environmental management system. Upofloor strives for continuing growth by investing in the future. Its new generation of products focuses on special high-technology floor coverings. The most recent result of intense product development is LifeLine™, which will change our view of traditional heavy duty floorings. It is an innovative product for conditions that require extreme strength and durability without compromising the environment.

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