



NC 65 STH HES

Caseament windows and doors

www.metra.it



METRA
Italian Style Emotions



METRA. ADDING VALUE TO YOUR HOME



CHOOSE ALUMINIUM

Aluminium is becoming ever present in our lives: from cans to high-speed trains. Aesthetically pleasing, malleable, extremely resistant and 100% recyclable. Aluminium is the ideal material for the creation of window and door frames.

QUALITY AND CERTIFICATIONS

The production cycle starts from raw material, from aluminium, its extrusions up to painting or coating. All Metra windows and doors carry the CE mark, they are produced in Europa and certified by the most important certifying bodies in Italy and abroad.

DESIGN AND STYLE

METRA's window and door frames make up a wide range of aesthetic lines which add value to contemporary living spaces. Our most contemporary creations provide more light to living spaces due to their tapered shapes and the minimum thickness of the profiles.

DESIGN COMPLEMENTS

METRA's design complements are offered in a range of coordinated lines distinguished by a unique style which are able to satisfy and harmonise the aesthetic requirements of any type of living space.

METRA's accessories ensure high performance to your windows and doors...a long-term investment due to its incomparable durability.

FINISHES

So many finishes, all extremely sturdy and chromatically surprising!

From metallic colours to sand effects ... right up to natural wood cladding with an aluminium heart.

OUR CUSTOMER SERVICE: ALWAYS CLOSE TO YOU

We are at your side during each phase with our pre-sale and follow-up customer service: from choosing to installing your frames, from cleaning advice to the traceability of your frames' history.

METRA FRANCHISING

People can enter METRA franchises with a dream and make it come true.

Ask our highly skilled staff able to identify the best solution based on your needs.

GREEN

METRA operates at a low environmental impact and all its products are Green at the utmost degree.

METRA. Design, Colour, Emotion. Italian style desired the world over.

METRA's integrated systems have been created in order to provide quality solutions to the most up-to-date architectural and aesthetic needs of the contemporary era, they supply comfort and security to your dwelling space.

METRA's systems are characterized by: a vast range of colours, accessories, design complements, anti-break devices, automation and ergonomic design. Thermic insulation and a certified installation system ('Posa Clima') guarantee long lasting durability and energy saving.

People dreaming of their own house, dream of METRA's window and door frames.







NC 65 STH HES "High Energy Saving", the new METRA system for casement windows and doors, realized by the use of innovative and eco-friendly materials.

A solution that meets the various technical and aesthetic requirements of architects and clients, the result of an elaborated research process.

Excellent performance of thermal and acoustic insulation combined with a high burglar resistance class to enjoy your home with maximum comfort and safety.

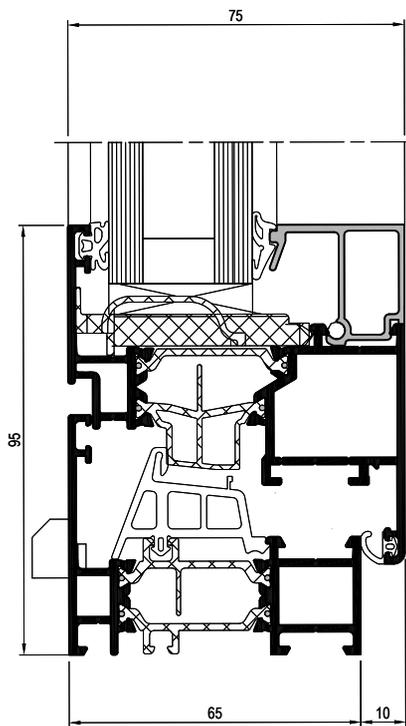
The extreme versatile system is particularly suitable for the use in renovations due to the wide range of available finishes.

NC 65 STH HES: Not just a window, but a real piece of furniture to enhance your living space!

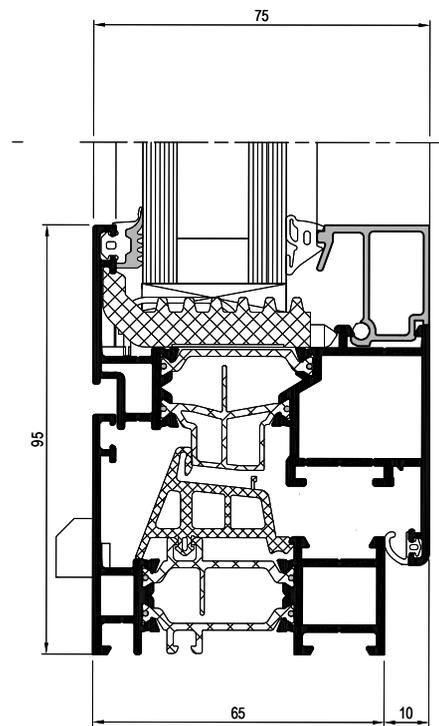
NC 65 STH HES

Configurations

Standard



Plus



Aesthetic Lines

Basic



Shaped



Rounded



NC 65 STH HES



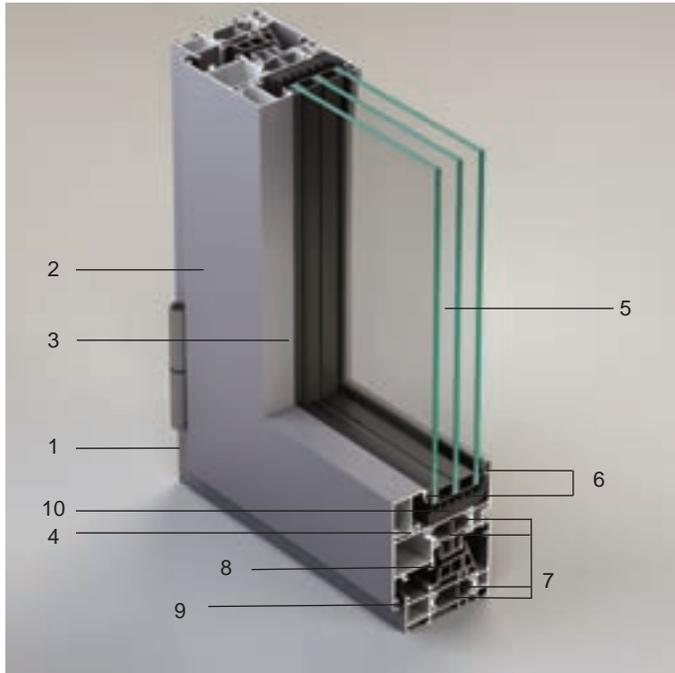
Iron

Hidden



NC 65 STH HES

Technology



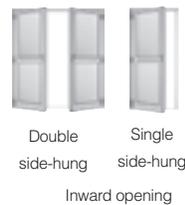
- 1 - Frame
- 2 - Sash
- 3 - Glazing bead available in different sizes depending on glass thickness
- 4 - Specific glass stabilizing gaskets
- 5 - Insulating glass with one air space (double glazing) or two air spaces (triple glazing)
- 6 - EPDM gasket for glazing
- 7 - Insulating bars made of polyamide 6.6 reinforced with 25% fibreglass that reduce the heat loss by convection due to their geometric shape
- 8 - Open joint tightness central gasket
- 9 - EPDM internal rabbet gasket
- 10 - Under-glass insulating gasket.

Opening typologies

Windows:



Doors::



Advantages

- Innovative and eco-friendly materials
- Maximum thermal and acoustic insulation
- High burglar resistance class
- Easy employment in renovation works
- Easy maintenance
- High-level design
- Wide range of finishes.

Technical features

Base dimensions: 65 mm

Air-water tightness: open joint (windows and case-ment doors)

Glass thickness: from 8 to 60 mm

Aesthetic Lines: Basic, Shaped, Rounded, Iron and Hidden.



NC 65 STH HES - Performances

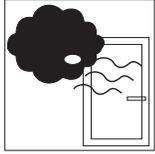


Water tightness EN 1027 - EN 12208

The METRA window or door has not had any seepage of water even with a wind pressure equal to a speed of 111,54 km/h (600Pa)

Air pressure applied km/h	(0Pa)	(50Pa)	(100Pa)	(150Pa)	(200Pa)	(250Pa)	(300Pa)	(450Pa)	(600Pa)	(900Pa)
	0	32,2	45,53	55,77	64,39	72	78,87	96,59	111,54	136,6
Class achieved	1A	2A	3A	4A	5A	6A	7A	8A	9A	E900

Capacity of the window or door to block seepage of water when it is struck by a water flow and there is a pressure difference between the internal and external side.

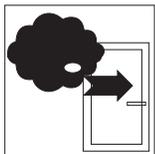


Air permeability EN 1026 - EN 12207

The METRA window or door was subjected to a wind pressure equal to a speed of 111,54 Km/h (600Pa) and passed the test with positive results.

Air pressure applied	(150Pa)	(300Pa)	(600Pa)	(600Pa)
Class achieved	1	2	3	4

Characteristic of a closed vent to let air pass through when the internal and external pressures are mutually different; the smaller the volume dispersed, the greater the window or door quality.



Resistance to wind load EN 12211 - EN 12210

The METRA window or door was subjected to a wind pressure equal to a speed of 203 Km/h (2000Pa) and passed the test with positive results.

Air pressure applied	(400Pa)	(800Pa)	(1200Pa)	(1600Pa)	(2000Pa)	(>2000Pa)
With deflection	A (1/150)		B (1/200)		C (1/300)	
Class achieved	1	2	3	4	5	Exxx

Capacity of a window or door subjected to high pressure and/or suction, such as those caused by wind, to remain within admissible deformation limits and to conserve its initial properties so as to ensure protection and safety to the users.

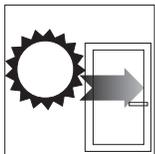


Soundproofing power EN ISO 140-3, EN ISO 717-1

METRA windows and doors are able to cut out airborne noise from the outside up to 49 dB.

Up to 49 dB

Capacity of a window and door to attenuate external noise.



Thermal transmittance

The METRA window has achieved the gold class of the quality seal ClimateHouse quality window.

Standard	Uf W/m ² K	1.9	
	Uw W/m ² K*	1.2	
* Window 1 casement 1230 x 1480 mm; glass: Ug=0.9 W/m ² K, psi=0.036 W/m K			
Plus	Uf W/m ² K	1.7	
	Uw W/m ² K*	1.0	
* Window 1 casement 1230 x 1480 mm; glass: Ug=0.6 W/m ² K, psi=0.031W/m K			

The heat transmission rate U is the heat flow which goes through the window or door according to m² of surface and for each degree of difference in temperature between exterior and interior. The unit of thermic transmission measurement is W/m²K

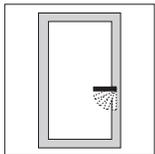


Burglar resistance EN 1627 - EN 1630

METRA windows and doors effectively resist intruders attempting to get inside.

Resistance class	RC1	RC2	RC3
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Capacity of a window and door to resist a violent intrusion attempt following application of a physical force with the help of tools.

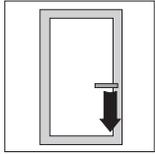


Operating forces EN 13115

METRA windows and doors enable easy opening with minimum effort.

Class achieved	Classe 0	Classe 1	Classe 2
	-	100 N	30 N

Capacity of a window and door to enable easy opening with minimum effort.

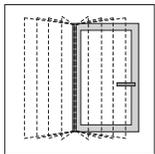


Mechanical resistance EN 12046 - EN 13115

METRA windows and doors resist applied loads without twisting, permanent deformation or breakage.

Class achieved	Classe 0	Classe 1	Classe 2	Classe 3	Classe 4
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Capacity of a window and door to resist applied loads without breaking, with no permanent deformation or twisting that could impair their correct functioning.

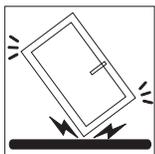


Resistance to repeated opening and closing cycles EN1191 - EN 12400

METRA windows and doors effectively resist repeated opening and closing cycles over time (10,000 openings).

Class achieved/No.cycles	Finestre e porte				Solo porte				
	0	1	2	3	4	5	6	7	8
	-	5000	10000	20000	50000	100000	200000	500000	1000000

Capacity of a window and door to resist repeated opening and closing cycles over time.



Impact resistance (TEST METHOD WITH A HARD BODY) EN 13049

METRA windows and doors effectively resist impact.

Drop height	200 mm	300 mm	450 mm	700 mm	950 mm
Class achieved	1	2	3	4	5

Capacity of a window and door to withstand involuntary or accidental impact.

ACCESSORIES AND DESIGN COMPLEMENTS - MR 540 | hardware

The MR 540i hardware is characterized by a high technical content that allows the overcoming of the dimensional limits and the sash weight of the windows.

Thanks to the MR 540i hardware it is possible to realize typologies with heights up to 2700 mm and weight up to 300 kg.

Constructive typologies:

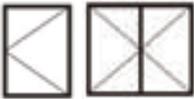
- **Tilt and turn window (1 or 2 casements)**



Tilt and turn/tilt and turn - tilt first
Side-hung Tilt and turn 2 casements

It is possible to fabricate windows with a height up to mm and a sash weight of 90, 130, 200 kg. Tilt first opening for higher protection against accidental opening in winter.

- **Side-hung windows (1 or 2 casements)**



Side-hung
Side-hung 2 casements

It is possible to fabricate windows with heights up to 2700 mm and a sash weight up to 90, 130, 200, 300 kg. Closing systems with tilt cam (moving rod with single-direction movement) for perimetral closing).

- **Bottom hung**



Vasistas

It is possible to fabricate windows with horizontal handle and a sash weight up to 90, 130 kg, or vertical handle with a weight up to 90, 130, 200 kg.

- **Tilt and turn arched windows**



Arched or diagonal tilt and turn window

It is possible to fabricate windows with heights up to 1200 mm and a sash weight up to 80 kg.

Advantages:

- **Functionality:**
 - Side and height adjustment with the sash mounted on the frame
 - Reduced operating forces
 - Possible opening restrictor with cushioned and braking action
- **Solidity:**
 - Higher tear resistance of the tilt cams
- **Clean and elegant aesthetics:**
 - Perfect symmetry of the hinges
 - Hinge alignment with sash rabbet.

Anti-burglary-system:



It is possible to fabricate with load capacities from 130 to 200 kg, with anti-burglary-safety according to the resistance classes RC2 and RC3 (European standard EN V1627) in the following constructive typologies:

- Tilt and turn window
- Double side-hung window with tilt and turn
- Double side-hung casement door with tilt and turn
- Tilt and turn casement door.



ACCESSORIES AND DESIGN COMPLEMENTS - Designo hardware

Created to meet the needs of architects and designers, Designo is the hardware that combines high technology and strong attention to aesthetics.

Hidden hinges that make visible only the handle, leaving the window or door in harmony with the environment.

Construction types:

- Tilt and turn windows (1 or 2 casements)

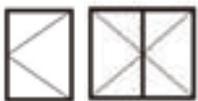


Tilt and turn/tilt and turn - tilt first

Side-hung Tilt and turn 2 casements

It is possible to fabricate windows with heights up to 2400 mm and sash weight up to 100, 150 kg. The tilt first solution prevents unintentional opening from inside.

- Side-hung windows (1 or 2 casements)



Side-hung

Side-hung 2 casements

It is possible to fabricate windows with heights up to 2700 mm and sash weight up to 90, 130, 200, 300 kg. Closing systems with tilt cam (moving rod with single-direction movement) for perimetral closing).

- Bottom-hung windows



Vasistas

It is possible to fabricate windows with horizontal handle and sash weight up to 90, 130 kg, or vertical handle with weight up to 90, 130, 200 kg.

- Windows for ventilation

It is possible to fabricate windows with heights up to 1200 mm and sash weight up to 80 kg.

Advantages:

- Essential and clean aesthetics
- Realization of large casements with a weight up to 150 kg
- Complete view due to an opening width up to 100°
- Wide range of optional accessories.



ACCESSORIES AND DESIGN COMPLEMENTS - Tilt-and-slide hardware

Hardware for casement windows and doors, perfect for large casement doors (up to 1680x2700 and maximum weight of 200 kg).

Advantages

- Comfort

Due to the innovative plug the casement turns automatically into the closed position.

The intelligent design of the arm ensures a harmonically opening and closing of the sash with a low noise level. Even large and heavy sashes can be moved effortlessly due to the special carriages.

- Safe operation

The new design of the arm and the carriages eliminates any handling error. The sliding sash is operated intuitively and safe, even from non-habitual users.

- Healthy ventilation

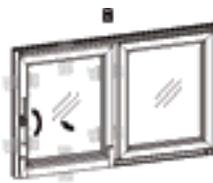
The ventilation position of the sliding element is safe even in case of ventilation without anyone at home as the ventilation position is not visible from the outside. With the ventilation opening there can be obtained a natural air exchange and thus a healthy indoor climate due to the prevention of mildew.



Closed position



Sliding position



Ventilation position



ACCESSORIES AND DESIGN COMPLEMENTS - Handles Essence Line

Comfort, design and security for your living space! This innovative range of ergonomic handles designed as a complement to the METRA systems provides a distinctive and unique style to modern rooms!

Advantages:

- Secustik

By means of this system the window cannot be opened from the outside and so your house is totally protected.

- TBT - Tilt Before Turn

This innovative system offers better protection against accidental opening from inside.

- Quadro Rapido

Innovative technique to easily and quickly fit the cremone bolt.

- Version with embedded rose.



LAYING SYSTEM

Posa Clima METRA is an innovative laying system for windows and doors that ensures a high thermal and acoustic comfort of the building and high energy savings. (The laying system can be applied to all METRA systems).

Advantages:

- Higher thermal and acoustic insulation of the windows or doors
- Recyclable and free from lead stabilizers or other heavy metals
- Excellent resistance to weather effects and long-lasting even with sun exposure, salty air and the most common chemicals
- Fireproof and self-extinguishing
- Easy to paint.



FINISHES AND COATINGS



Lively and long-lasting colours

The most gratifying and creative part of purchasing METRA windows and doors is definitely choosing the surface finishing or coating. The surface finishing is made using natural pigments with zero environmental impact thus ensuring exceptional aesthetic results and durability such as mat, gloss and extra gloss anodised or sandeffect paint, fantastic to be seen and touched. Within the range METRA are available polyester powders in class 2 in order to ensure a high quality product without long-lasting colours.



FINISHES AND COATINGS

For those who love natural wood applied to contemporary forms, aluminium-wood is the perfect choice. Great resistance, security and air-tightness with an aluminium core... as well as the stunningly stylish shades and look of various types of wood.

Alluminio-Legno

Natural oxidized effects, matt, gloss, and even extra-gloss, produce a cool and trendy effect. The Evolution line was inspired by architects to enhance modern lifestyles. Evolution is highly sought after for all types of living spaces because of its strong aesthetic and durability in any type of climate.

Evolution

The Sablé finishes have a multi-sensorial effect. They are fantastic to look at and rough or satin to the touch. The sandblasted effect is quite versatile, trendy and easy to use in renovations and innovative living.

Sablé

The Raffaello line was developed in collaboration with important design boards and offers two different finishes: smooth and hammered. Thanks to the specific use of the "pointillist" method - obtained by a controlled mix of several different shades of colour - both finishes have an original and exclusive feel and look.

Raffaello



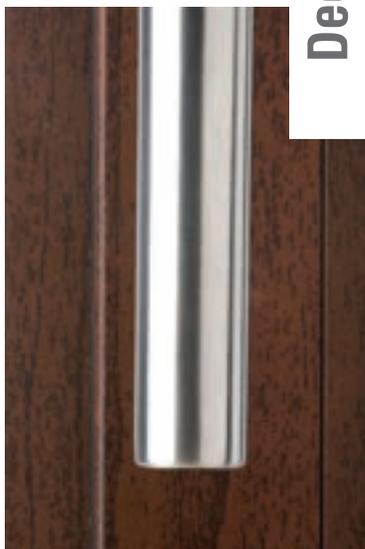
Decor combines the strength of aluminium with the aesthetics of wood. This line faithfully reproduces the grain of traditional types of wood thanks to the sublimation process carried out on the painted layer.

The AL line represents the range of the most classic colours. Beside the traditional gloss finishes, the matt colours ensure great scratch-proof features.

Earth line, versatile finishes that meet the most different needs on the market. The seven types reproduce the typical colours of nature.

Luce line, composed of solutions with different finishes: smooth, rough and Pointillist finish. Fifteen solutions to meet any kind of request, classic or innovative.

Decor



AL



Earth



Luce



Curtain walls

Casement windows and doors

Aluminium-wood windows and doors

Sliding windows and doors

Internal doors and partition walls

Systems for balconies

Verandas

Shading systems

Photovoltaic applications

Accessories and design complements

Finishes and coatings



METRA

METRA S.p.A. Via Stacca,1 - 25050 Rodengo Saiano (BS) Italy
Tel. +39 030 6819.1 - Fax +39 030 6819990
servizioclienti@metra.it - www.metra.it

METRA uses ecological paper for its documentation
and low environmental impact printing products.

