



# ENLIGHTENED WINDOWS

Manufactured in Germany

## GERMAN TILT-TURN COMPOSITE WINDOWS AND DOORS



Exceptional Quality  
Windows and Doors

[WWW.ENLIGHTENEDWINDOWS.CO.UK](http://WWW.ENLIGHTENEDWINDOWS.CO.UK)



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# Welcome to Enlightened Windows

## German Composite Tilt-Turn Windows

Our extensive range of composite windows are made from an engineered structure of wood and aluminium. The wooden frame of the window is fully engineered and provides an effective, yet attractive, insulating structure to the overall window. If you wish to have a low maintenance wooden window, the composite window is a perfect choice.

All of our German composite windows have **uniquely welded, polished and powder coated joints** on the external aluminium corners. This provides **outstanding durability and longevity** as there are no bare aluminium to bare aluminium joints on the corners. All of our products also feature butyl rubber weather seals which retain their elasticity and performance for decades.

Our timber is all German manufactured laminated timber which offers the **finest durability and stability**. Our face timber is knot and defect free. Furthermore, we only use finger joints on very large windows. With a complete colour palette to suit all tastes (all RAL colours available), combined with a selection of finishes and lockable handles (optional), our composite windows can be **fully customised**.

Composite windows have **6 laminations of timber construction**; minimising the most common cause of sealed unit failure – movement in timber-framed windows. Thanks to **uniquely welded, polished and treated aluminium cladding**, unlike some cheaper alternatives, the our windows do not leave any butt joints exposed – another common cause of failure. This level of build quality provides **excellent resistance to break-ins**, and virtually **unbeatable reliability** as standard. We can also provide all marine coatings and hardware to resist the harshest marine environments.

By using a specially manufactured, durable, premium **German rotary tilt-turn mechanism**, combined with our German-made running gear, our German Composite windows offer a blend of practicality, reliability and performance.





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## Series Breakdown



### C Series

- **Modern, flush, architectural finish**
- Angular and clear appearance
- Flush aluminium-coated shell
- Modern contours
- Narrow wing views.



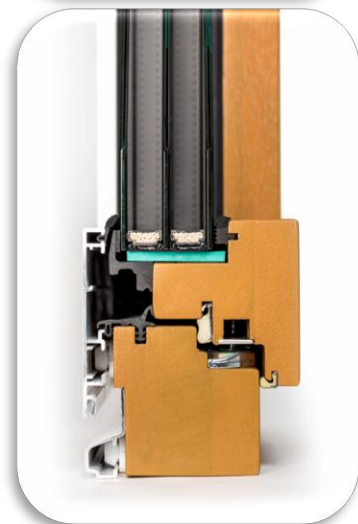
### M Series

- **Traditional look**
- Offset profile
- Narrow exterior view
- Surface-mounted, welded aluminum shell
- Precise mitred joint
- Very popular in renovations



### IN Series

- **Modern, contemporary architectural finish**
- **Integral frame**
- Crisp, modern section
- A flush finish is also possible





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## Technical Details

### Performance

- High Performance Gas-filled unit
- Double, triple or quadruple glazing available
- U<sub>w</sub> value down to 0.75 W/m<sup>2</sup> K

### Engineering

- Aluminium corner welded, then polished.
  - The finest German powder coating is used.
  - Butyl rubber weather seal as standard - provides low thermal bridging and unprecedented air-tightness. Triple seal as standard with up to 4 seals optional.
  - Finest quality timber with knot-free face
  - 6 Laminated sections providing high stability
  - No foam seals used (used by most other manufacturers) - these often deteriorate.
  - **Fully factory finished. Just install.**
- Premium quality low-iron glass used as standard
  - Variety of trickle vents
  - Matching aluminium sills available on request

### Security

- High security as standard on all our windows
- Resistance classes: RC 1, RC 2, RC3 standard DIN V ENV 1627-1630

### Innovation

- NEW Dual/tri colours are possible: Different colour inside and out. Even the frame and sash of the window can be different colours to achieve an ultra-modern look.
- 2 piece aluminium exterior
- Concealed hinges (optional)



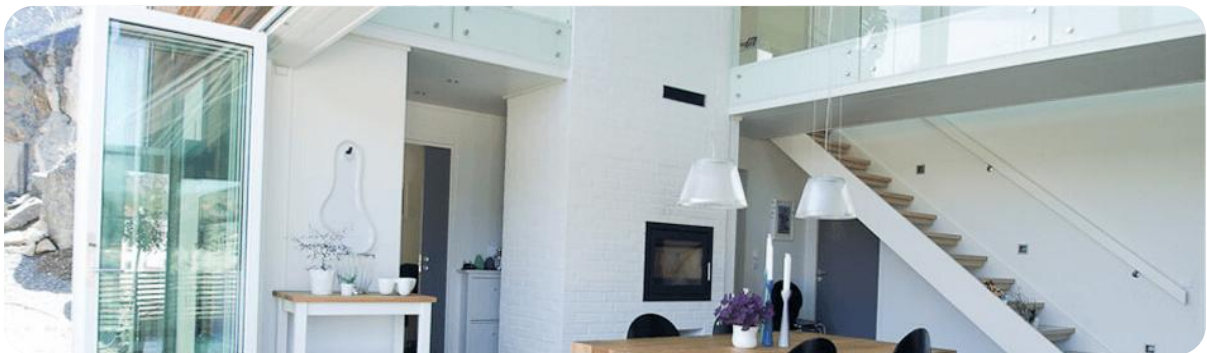
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## Styling Choices

Available on All German Composite Windows and Doors

- Complete colour palette to suit all tastes. All RAL colours available. Please see colour chart.
- Powder-coated aluminium profile available in Matt, Satin and Gloss external finishes
- Natural, oiled or painted finishes available
- Natural timber finishes with knot-free surface and no finger jointing visible
- Available wood:  
Oak (oiled or varnished), Larch, Slow Grown Pine, Meranti, Walnut, Maple, Cherry, Eucalyptus
- IMPRA German made paints, stains and limes providing a stunning range of softwood stains, limed finishes and mimic hardwood finishes





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The following RAL colours are available. Please use this chart as a guide. Gemini RAL colour charts available on request.

	RAL 1013 Perlweiss   Oyster white		RAL 7006 Beigegrau   Beige grey		RAL 8001 Ockerbraun   Ochre brown
	RAL 1015 Hellelfenbein   Light ivory		RAL 7011 Eisengrau   Iron grey		RAL 8003 Lehmbraun   Clay brown
	RAL 3003 Rubinrot   Ruby red		RAL 7012 Basaltgrau   Basalt grey		RAL 8007 Rehbraun   Fawn brown
	RAL 3004 Purpurrot   Purple red		RAL 7015 Schiefergrau   Slate grey		RAL 8011 Nussbraun   Nut brown
	RAL 3005 Weinrot   Wine red		RAL 7016 Anthrazitgrau   Anthracite grey		RAL 8014 Sepiabraun   Sepia brown
	RAL 3011 Braunrot   Brown red		RAL 7021 Schwarzgrau   Black grey		RAL 8016 Mahagonibraun   Mahogany brown
	RAL 5002 Ultramarinblau   Ultramarine blue		RAL 7022 Umbragrau   Umbra grey		RAL 8017 Schokobraun   Chocolate brown
	RAL 5003 Saphirblau   Sapphire blue		RAL 7024 Graphitgrau   Graphite grey		RAL 8019 Graubraun   Grey brown
	RAL 5007 Brillantblau   Brillant blue		RAL 7031 Blaugrau   Blue grey		RAL 8022 Schwarzbraun   Black brown
	RAL 5008 Graublau   Grey blue		RAL 7035 Lichtgrau   Light grey		RAL 9001 Cremeweiss   Cream
	RAL 5011 Stahlblau   Steel blue		RAL 7036 Platingrau   Platinum grey		RAL 9002 Grauweiss   Grey white
	RAL 5014 Taubenblau   Pigeon blue		RAL 7037 Staubgrau   Dusty grey		RAL 9006 Weissaluminium   White aluminium
	RAL 5023 Fernblau   Distant blue		RAL 7038 Achatgrau   Agate grey		RAL 9007 Graualuminium   Grey aluminium
	RAL 6005 Moosgrün   Moss green		RAL 7039 Quarzgrau   Quartz grey		RAL 9010 Reinweiss   Pure white
	RAL 6009 Tannengrün   Fir green		RAL 7040 Fenstergrau   Window grey		RAL 9011 Graphitschwarz   Graphite black
	RAL 6012 Schwarzgrün   Black green		RAL 7043 Verkehrsgrau B   Traffic grey B		RAL 9017 Verkehrsschwarz   Traffic black
	RAL 6013 Schilfgrün   Reed green		RAL 7045 Telegau 1   Telegrey 1	<b>RAL Sonderfarbe   RAL Special Color</b>	
	RAL 7001 Silbergrau   Silver grey		RAL 7046 Telegau 2   Telegrey 2		RAL 9023 Perldunkelgrau - Preis auf Anfrage Pearl dark grey - Price on request
	RAL 7004 Signalgrau   Signal grey		RAL 7047 Telegau 4   Telegrey 4		

## Decoralfarben | Decoral Colors

	MKW 01 Douglas 1   Douglas 1
	MKW 02 Douglas 2   Douglas 2
	MKW 03 Kirsche 1   Cherry 1
	MKW 04 Kirsche 2   Cherry 2
	MKW 05 Eiche 1   Oak 1
	MKW 06 Eiche 2   Oak 2
	MKW 07 Kiefer 2   Pine 2
	MKW 08 Golden Oak 1   Golden Oak 1
	MKW 09 Golden Oak 2   Golden Oak 2
	MKW 10 Mahagoni 1   Mahogany 1
	MKW 11 Antik 1   Antique 1
	MKW 12 Nuss 1   Walnut 1

## Eloxal Farben | Anodized Colors

	E6/EV1 Natur   Natural
	E6/G216 Dunkelbronze   Dark bronze
	E6/G214 Mittelbronze   Middle bronze

## AOC Farben | AOC Colors

	029/91140 Silberlook (ähnl. E6/EV1 o. C-O)   Silver look (like E6/EV1 or C-O)
	029/65650 Dunkelbronze (ähnl. E6/G216 o. C34)   Dark bronze (like E6/G216 or C34)
	029/65680 Mittelbronze (ähnl. E6/G214 o. C33)   Middle bronze (like E6/G214 or C33)
	029/90434 Edelstahllook (ähnl. C31)   Stainless-steel look (like C31)

## Mikrolierte Oberflächen | Micro-polished Surfaces Colors

	M1/C31 Edelstahllook   Stainless-steel look
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## DB Farben | DB Colors

	029/70103	DB 701
	5803E90070A10	DB 702
	12545-3M5111	DB 703

## Trendfarben | Trend Colors

	tr02-FMOG Trendhellgrau Structural   Trend light grey structural
	tr03-FMOG Trenddunkelgrau Marmor matt   Trend dark grey marble matt
	tr05-GMOG Trendrot matt   Trend red matt
	tr06-FMOG Trendgrün Structural   Trend green structural
	tr07-GMOG Trendbraun marmor matt   Trend brown marble matt
	tr08-FMOG Trendweiss Structural   Trend white structural



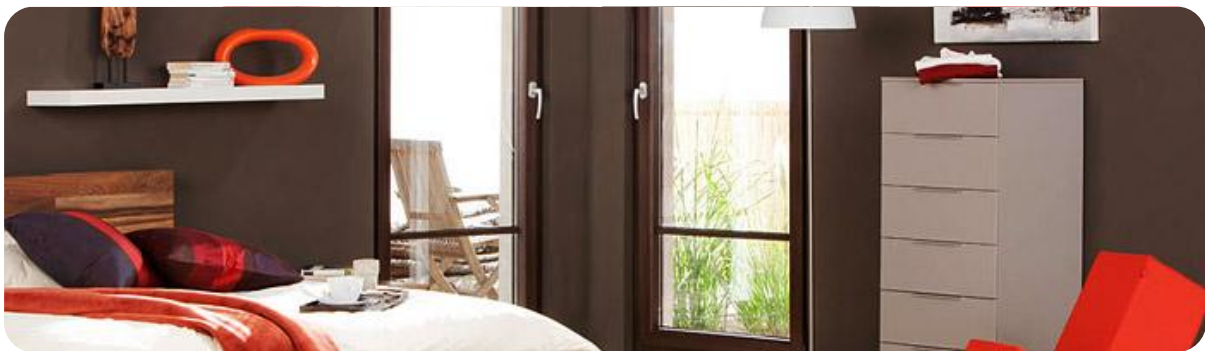
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### Configuration and Accessories

We have a range of potential configurations for all our German composite windows and doors. Customers can order our German Composite Windows and Doors with some optional extras.

- Tilt and Turn
- Tilt before Turn
- Terraced doors – open inwards or outwards
- Patio doors
- Sliding doors
- Lift and Slide doors
- Fixed Glazing (including fixed sash)
- Large format units
- Huge range of handles
- Retractable external Venetian Blinds which are unbeatable for summer heat protection
- External roller shutter blinds – either electrically operated or manual
- Many options on glass (solar, laminated, toughened, bullet-proof low e, swiss spacer bars). Please ask for more details.
- Wide range of trickle vents to cater for all ventilation needs



### Need Help?

Call us on 01608 684 607 and ask for a free consultation by e mail, phone, Skype or in person.

[sales@enlightenedwindows.co.uk](mailto:sales@enlightenedwindows.co.uk)



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Our German composite windows and doors come as standard with quality German manufactured double or triple glazing. Other types of glass are available on request.



wood / aluminum clad wood IV68

$U_g = 0.7 \text{ W / m}^2\text{K}$

Triple glazing



plastic, wood / aluminum clad wood IV78

$U_g = 0.6 \text{ W / m}^2\text{K}$

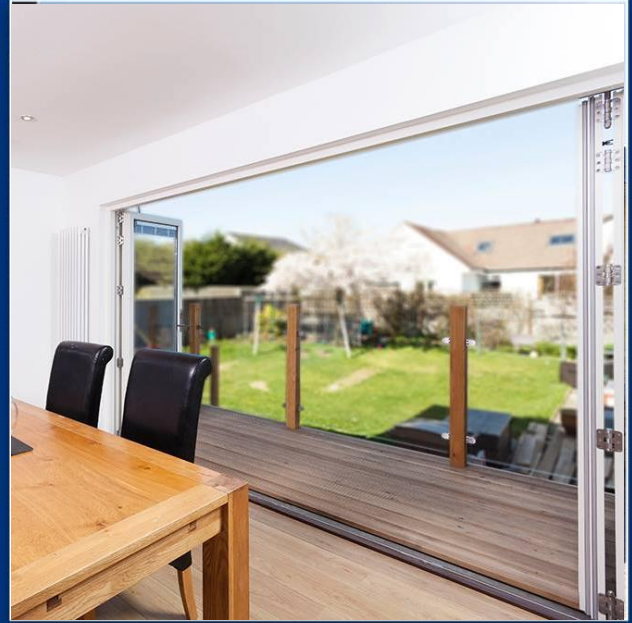
Triple glazing

## Thermal Performance Glazing in Combination with Wood-Aluminium Window Profiles

system	$U_g$ value	Wood density 430-450 kg / m <sup>3</sup> (for example pine, spruce)	Wood density 520-540 kg / m <sup>3</sup> (eg Meranti)	Wood density 700 kg / m <sup>3</sup> (hardwood oak)
IV68	1.1 W / m <sup>2</sup> K	1.20	1.30	1.40
<b>IV68</b>	<b>0.7 W / m<sup>2</sup>K</b>	<b>0.94</b>	<b>1.00</b>	<b>1.20</b>
IV68	0.6 W / m <sup>2</sup> K	0.88	0.94	1.10
IV68	0.5 W / m <sup>2</sup> K	0.81	0.87	1.00
IV78	1.1 W / m <sup>2</sup> K	1.20	1.20	1.40
IV78	0.7 W / m <sup>2</sup> K	0.91	0.97	1.10
<b>IV78</b>	<b>0.6 W / m<sup>2</sup>K</b>	<b>0.84</b>	<b>0.90</b>	<b>1.10</b>
IV78	0.5 W / m <sup>2</sup> K	0.78	0.84	1.00

(all  $U_w$  values in W / m<sup>2</sup>K)





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