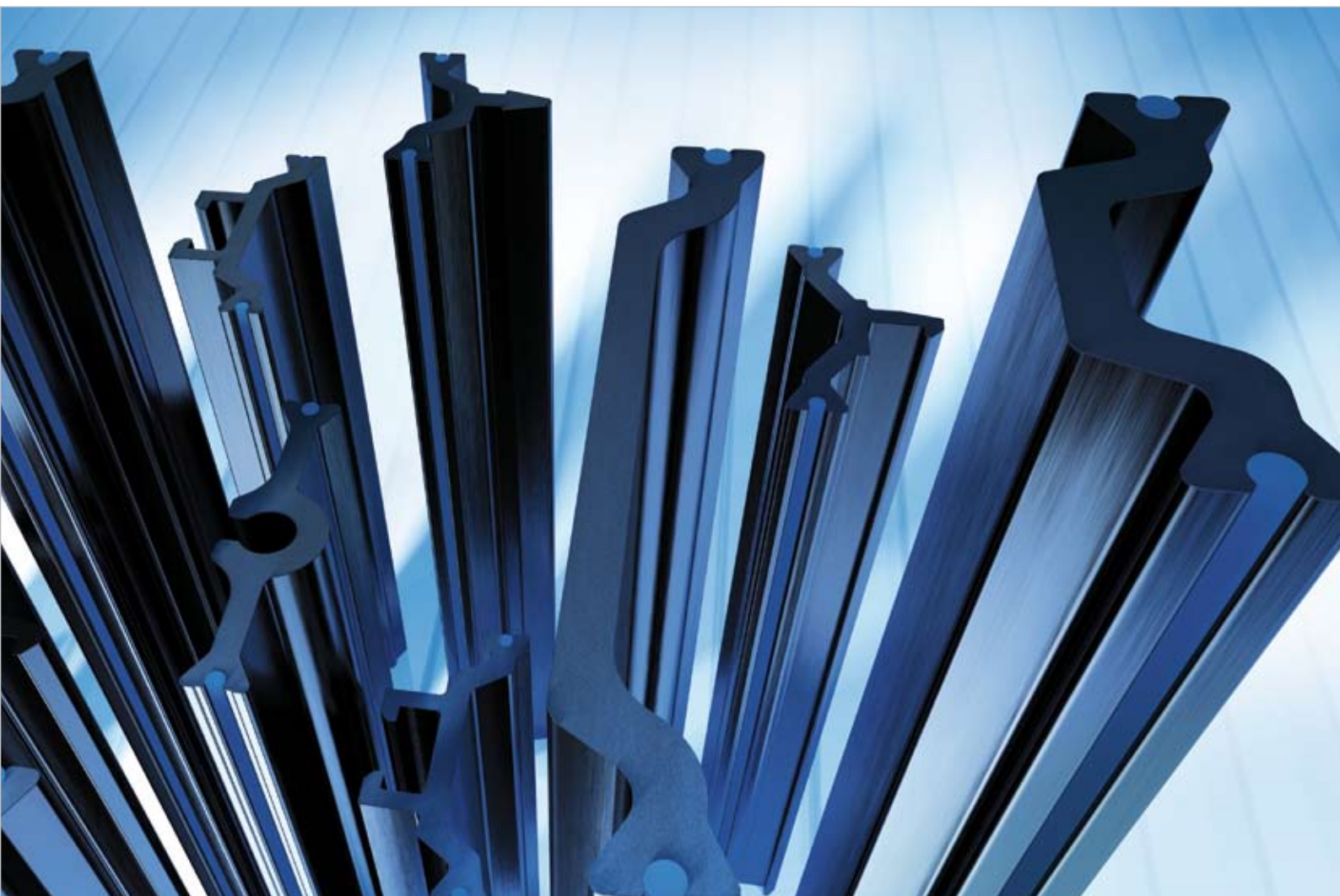


D ▶ Standardprogramm E ▶ Programa estándar F ▶ Programme standard GR ▶ Βασικό πρόγραμμα I ▶ Programma standard P ▶ Programa standard PL ▶ Standardowa oferta RUS ▶ Стандартная программа TR ▶ Standart programi

STANDARD PROGRAMME



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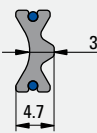
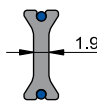
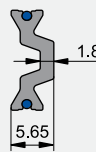
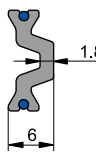
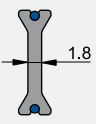
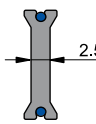
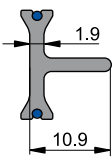
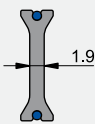
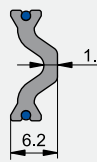
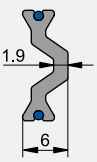
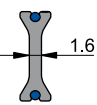
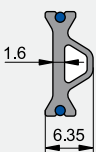
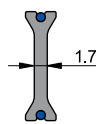
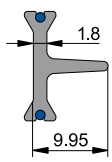
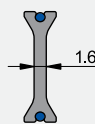
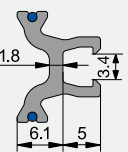
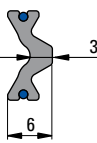
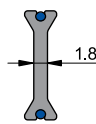
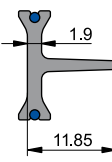
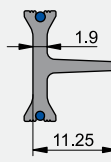
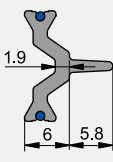
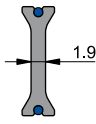
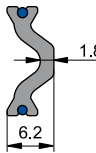
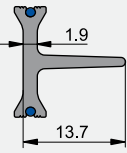
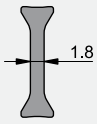
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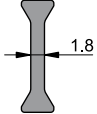
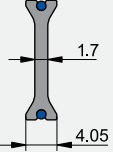
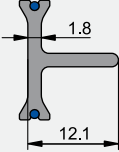
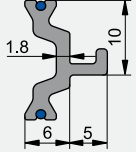
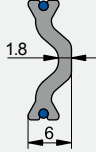
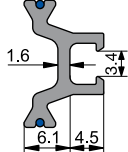
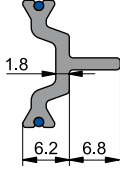
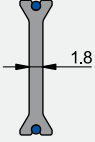
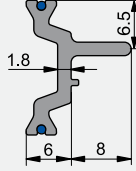
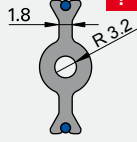
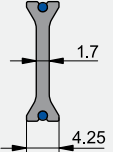
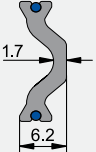
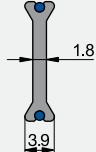
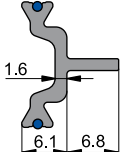
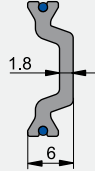
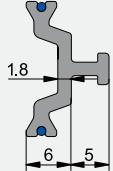
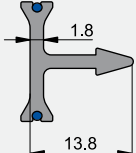
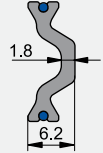
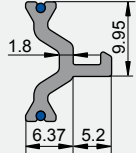
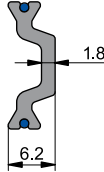
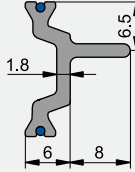
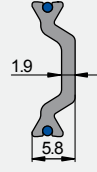
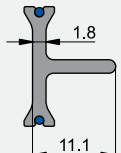
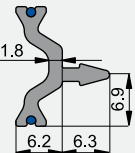
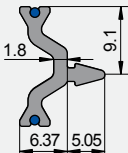
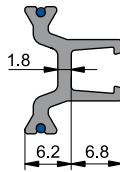
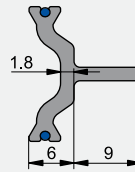
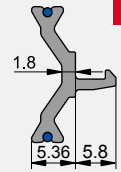
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30 years

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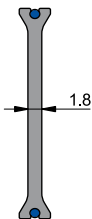
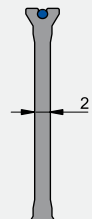
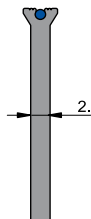
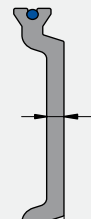
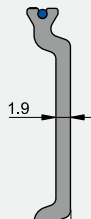
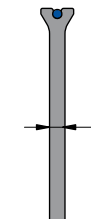
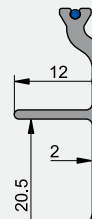
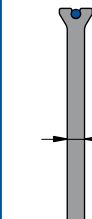
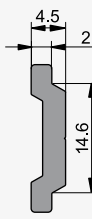
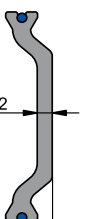
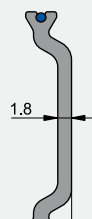
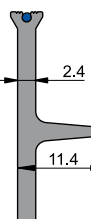


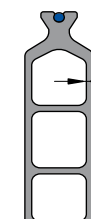

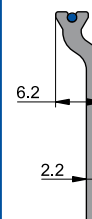
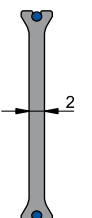
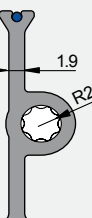
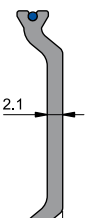

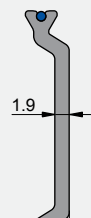
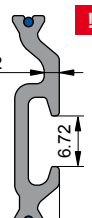
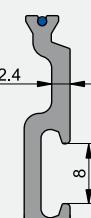

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| 10 mm | 12 mm | 13,4 mm | 13,5 mm | 14 mm | 14,6 mm | | 14,8 mm | | |
|--|---|---|---|---|---|--|---|---|---|
|  |  |  |  |  |  |  |  |  |  |
| 2530 5.000 | 1142 5.000 | 2014 3.800 | 2156 3.500 | 1044 4.800 | 0480 4.500 | 1674 3.000 | 0508 4.200 | 1946 3.500 | 2237 4.200 |
| |  | | |  |  |  |  |  | |
| | 2192 5.200 | | | 2104 2.200 | 1910 4.500 | 2045 3.000 | 2102 4.200 | 2134 2.500 | |
| |  | | | |  |  |  |  | |
| | 2531 4.500 | | | | 2046 4.500 | 1884 3.000 | 0785 3.000 | 2167 2.500 | |
| | | | | |  |  |  |  | |
| | | | | | 0818 4.500 | 2028 3.500 | 1090 3.000 | 2186 4.800 | |

| 15 mm | 16 mm | | | | 17 mm | | 18 mm | | |
|--|---|---|---|---|---|--|---|---|---|
|  |  |  |  |  |  |  |  |  |  |
| 1754 4.200 | 1928 3.800 | 1989 2.900 | 2189 2.300 | 2423 3.200 | 1918 2.800 | 2263 2.800 | 2111 2.900 | 2098 2.500 | 2594 2.500 |
| |  |  |  | |  | |  |  | |
| | 1864 3.800 | 1532 3.200 | 2103 3.800 | | 1919 2.800 | | 1987 2.800 | 2154 2.700 | |
| |  |  |  | |  | |  |  | |
| | 1866 2.900 | 1945 3.200 | 2375 2.100 | | 2250 2.800 | | 1988 2.500 | 2379 2.800 | |
| |  |  |  | |  | |  |  | |
| | 1927 2.900 | 1947 2.800 | 2376 2.800 | | 2262 2.800 | | 2063 2.500 | 2593 2.500 | |

| 18,6 mm | | 20 mm | | 21 mm | 22 mm | | | 23,9 mm | |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | | | | | | | | | |
| 0838 3.000 | 1418 2.500 | 1220 2.900 | 2031 2.400 | 1136 2.700 | 2049 2.600 | 0749 2.400 | 2285 2.800 | 0292 2.400 | 0839 2.500 |
| | | | | | | | | | |
| 1991 3.000 | 2126 2.800 | 2078 2.600 | | | 2062 2.400 | 2202 2.800 | 2380 1.900 | 0403 2.000 | 1707 2.200 |
| | | | | | | | | | |
| 1926 3.000 | 2305 2.500 | 1673 2.600 | | | 0748 2.500 | 2203 2.080 | | | 1750 2.200 |
| | | | | | | | | | |
| 0346 2.500 | | 2016 2.400 | | | 0750 2.200 | 2204 1.690 | | | 1498 2.200 |

| 24 mm | | | | | | 25 mm | | 26 mm | |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | | | | | | | | | |
| 1619 2.200 | 2165 1.700 | 2206 2.500 | 2279 2.200 | 2396 2.000 | 2432 2.100 | 1058 2.400 | 2050 2.200 | 1186 2.200 | 2535 1.700 |
| | | | | | | | | | |
| 1922 2.200 | 2191 1.800 | 2214 2.800 | 2331 2.200 | 2424 2.500 | | 0516 2.400 | 2051 2.200 | 2006 2.200 | |
| | | | | | | | | | |
| 1920 2.200 | 2199 2.500 | 2267 2.200 | 2316 2.200 | 2425 2.200 | | 2106 2.100 | 2155 2.400 | 0382 2.000 | |
| | | | | | | | | | |
| 1921 2.200 | 2200 2.200 | 2268 2.200 | 2395 2.100 | 2426 1.800 | | 0859 2.000 | 2311 2.400 | 1993 1.500 | |

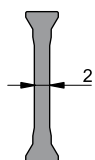
| 28 mm | 30 mm | 31,9 mm | 32 mm | | 34 mm | 35 mm | 36 mm | | 19,7 mm |
|--|---|---|---|---|---|--|---|--|---|
|  |  |  |  |  |  |  |  | |  |
| 2007 1.900 | 1729 1.900 | 0774 1.600 | 0724 1.600 | 2246 1.600 | 1885 1.400 | 1986 1.200 | 1814 2.200 | | 1840 2.000 |
|  |  |  |  |  |  |  |  | | |
| 1669 1.700 | 2080 1.600 | 0773 1.500 | 0758 1.400 | 2361 1.400 | 1861 1.200 | 2427 1.800 | 1958 1.800 | | |
|  |  |  |  |  | | | | | |
| 2198 2.600 | 2383 1.400 | 1651 1.500 | 0726 1.400 | 2631 1.600 | | | | | |
|  | | |  |  | | | | | |
| 2614 1.500 | | | 0725 1.800 | 2638 1.400 | | | | | |

- Bolt operating profile**
- D** ▶ Schubstange
 - E** ▶ Platina de herraje de cámara de europea
 - F** ▶ Barrette de verrouillage
 - GR** ▶ Ράβδος ασφάλισης
 - I** ▶ Asta di comando (cremonese)
 - P** ▶ Barra de transporte
 - PL** ▶ Łącznik przesuwny
 - RUS** ▶ Шатун
 - TR** ▶ Tij profili



D ▶ Standardprogramm E ▶ Programa estándar F ▶ Programme standard GR ▶ Βασικό πρόγραμμα I ▶ Programma standard P ▶ Programa standard PL ▶ Standardowa oferta RUS ▶ Стандартная программа TR ▶ Standart programi

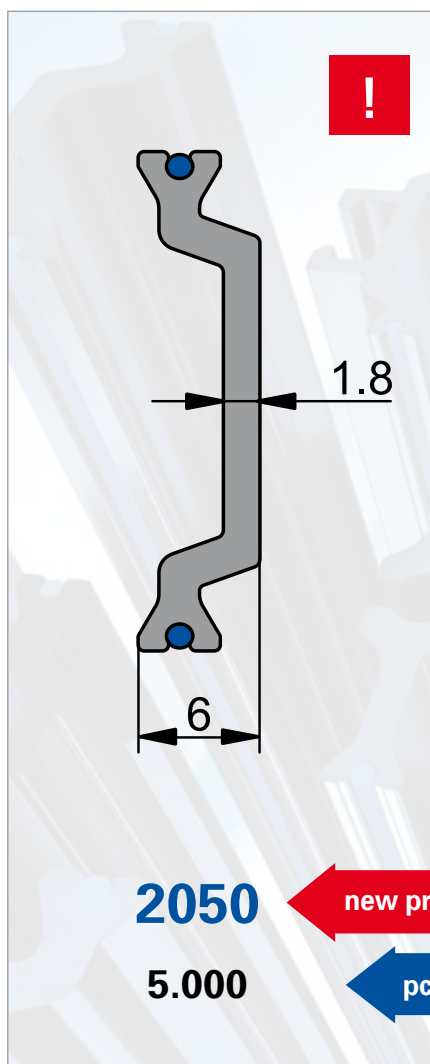
20 mm



1957
4.000

**Fire stop
insulbar®**

- D ▶ Brandschutz insulbar®
- E ▶ insulbar® cortagueo ignífugo
- F ▶ insulbar® coupefeu
- GR ▶ insulbar® πυρασφάλειας
- I ▶ Profilo insulbar® tagliafuoco
- P ▶ insulbar® autoextinguível
- PL ▶ insulbar® przeciwpożarowy
- RUS ▶ Противопожарный insulbar®
- TR ▶ Yangin önleyici insulbar®

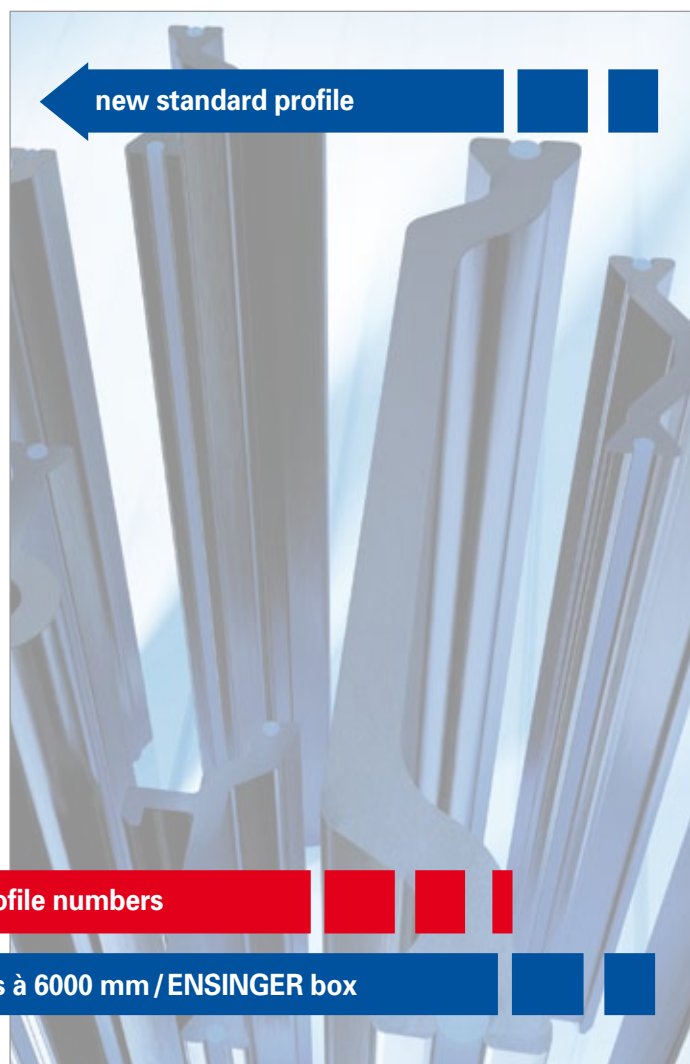


2050

5.000

new profile numbers

pcs à 6000 mm / ENSINGER box



new standard profile

PERFECT INSULATION
WINDOWS, DOORS AND FAÇADES

insulbar®

by **ENSINGER**

1 / 2009

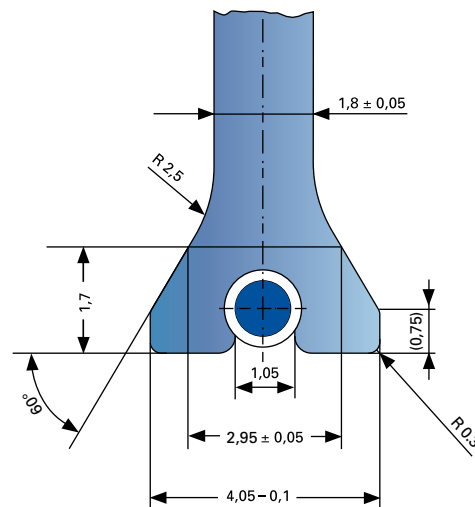
30 years

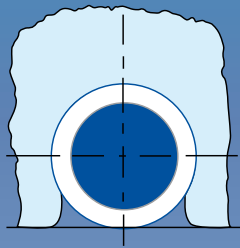
TECHNOLOGY

insulbar®

from the standard programme is supplied with the co-extruded sealing wire without additional costs D ► wird serienmäßig und ohne Mehrkosten mit Coex-Dichtdraht geliefert E ► se suministran habitualmente y sin ningún coste adicional con la varilla de sellado Coex F ► standard est fourni en série avec fil de colle coextrudé sans coût supplémentaire GR ► Το βασικό πρόγραμμα διατίθεται μαζί με ενσωματωμένο σύρμα συγκράτησης χωρίς επιπλέον κόστος I ► I profili del programma standard sono forniti con profilo di colla coestruso senza alcun costo aggiuntivo P ► são fabricados em série e são fornecidos com arame co-extrudido denso sem custos suplementares PL ► dostarczane są seryjnie i bez dopłat z żyłką uszczelniającą Coex RUS ► профили серийного производства с изолирующей вставкой в виде экструдированной проволоки поставляются без доплаты TR ► standart ürünü olup, co-ex misina için ek maliyet söz konusu değildir

A reliable tight water seal and more consistent shear strength ... D ► ENSINGER Coex-Dichtdraht: Die zuverlässige Feuchtigkeitssperre und perfekte Abdichtung... E ► Varilla ENSINGER Coex de sellado: Un seguro de cierre al paso de humedad y un perfecto sellado... F ► Fil de colle ENSINGER coextrudé: une étanchéité performante contre l'humidité et une meilleure résistance à la déformation... GR ► Σύρμα συγκράτησης ENSINGER: Αξιόπιστη αντοχή στην υγρασία και πιο ανθεκτική δύναμη κοπής... I ► Profilo in colla coestruso ENSINGER: permette una perfetta tenuta alle infiltrazioni di acqua ed una maggiore resistenza allo scorrimento... P ► Arame co-extrudido denso da ENSINGER: a vedação de confiança contra a humidade e perfeito isolamento... PL ► Żyłka uszczelniająca ENSINGER Coex: niezawodna paroizolacja i doskonałe uszczelnienie... RUS ► изолирующая экструдированная проволока ENSINGER: надежно изолирует и предохраняет от попадания влаги... TR ► ENSINGER Coex Misina: Yüksek su sızdır-mazlığı ve ekstra çekme mukavemeti...

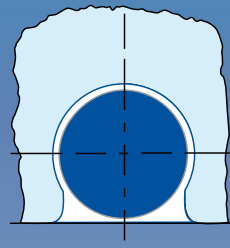




... before powder coating

D► ... vor der Pulverbeschichtung
 E► ... antes del proceso de lacado
 F► ... avant laquage GR► ... πριν τη βαφή I► ... prima del trattamento di verniciatura con polveri
 P► ... antes do revestimento em pó PL► ... przed lakierowaniem

proszkowym RUS► ... схема перед процессом покрытия порошком TR► ... toz boya öncesi

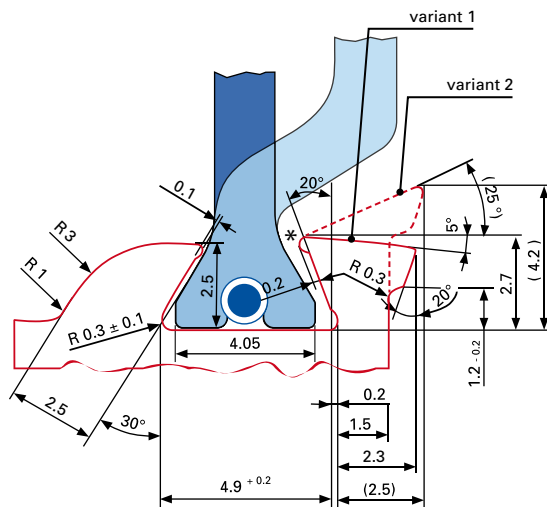


... after powder coating

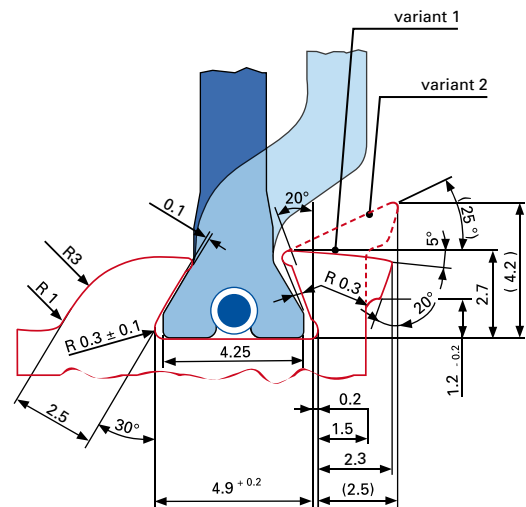
D► ... nach der Pulverbeschichtung
 E► ... despues del proceso de lacado
 F► ... après laquage GR► ... μετά τη βαφή I► ... dopo il trattamento di verniciatura con polveri
 P► ... depois do revestimento em pó PL► ... po lakierowaniu proszkowym

RUS► ... схема после процесса покрытия порошком TR► ... toz boya sonrasi

Proposal for the aluminium cavity D► Vorschlag für die Aluminium-Aufnahmekammer E► Propuesta de cajera de alojamiento para el perfil de aluminio F► Exemple de cavités du profil aluminium GR► Πρόταση για την κοιλότητα υποδοχής του αλουμινίου I► Esempio della cavità del profilo in alluminio P► Sugestão para a câmara de receção de alumínio PL► Propozycja dla aluminiowej komory uchwytowej RUS► Предложение для полости алюминиевого профиля TR► Alüminyum çuva dñeđi

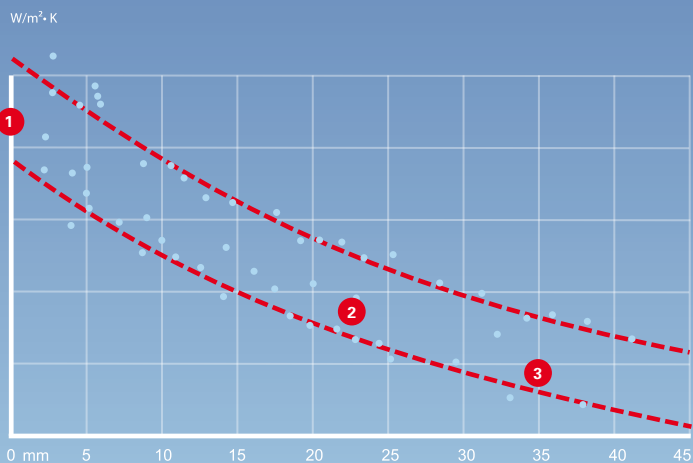


* = R 0,2 mm



Energy saving dependant on height of insulbar® (schematically) **D** ► Energieeinsparung abhängig von der insulbar® Höhe (schematisch) **E** ► El ahorro energético depende de las dimensiones insulbar® (esquemático) **F** ► L'économie d'énergie en fonction de la dimension d'insulbar® (schématique) **GR** ► Εξοικονόμηση ενέργειας από το ύψος του insulbar® (όπως το σχήμα) **I** ► Risparmio energetico in funzione dell'altezza del profilo insulbar® (grafico) **P** ► A economia de energia depende da altura insulbar® (esquemático) **PL** ► Zależność oszczędności energii od wysokości insulbar® (schemat) **RUS** ► Экономия энергии зависит от высоты профиля insulbar® (схематично) **TR** ► insulbar® yüksekliğine bağlı olarak enerji tasarrufu (şematik)

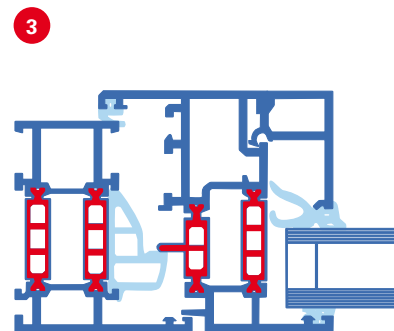
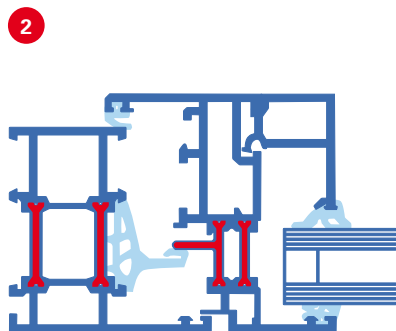
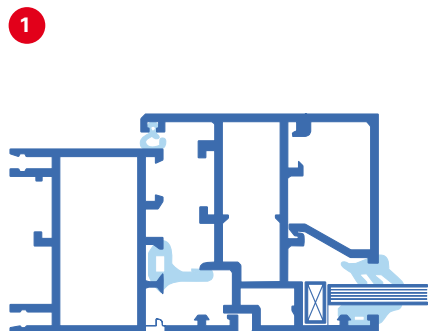
U-value of frame (heat transfer)



Distance between aluminium-sections (height of insulbar®)

U-value of frame (heat transfer) **D** ► U-Wert des Rahmens (Wärmeübertragung) **E** ► Valor U del marco (transmisión térmica) **F** ► La valeur U du cadre (transfer de chaleur) **GR** ► Τιμή U του πλαισίου (μετάδοση θερμότητας) **I** ► Valore U_f del sistema (trasmissione termica) **P** ► valor-U das molduras (transferência de calor) **PL** ► Wartość U ramy (przenikalność cieplna ramy) **RUS** ► U-величина рамы (теплопередача) **TR** ► Çerçevenin U-değeri (Isi Transferi)

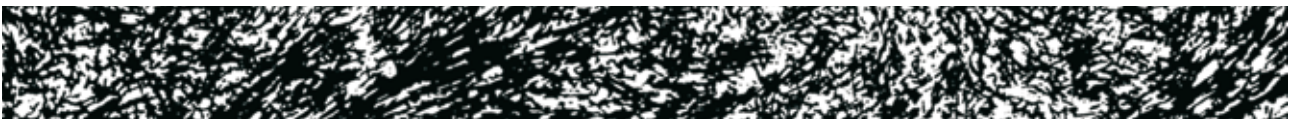
Distance between aluminium-sections (height of insulbar®) in mm **D** ► Abstand der Aluminium-Schalen (insulbar®-Höhe) in mm **E** ► Distancia entre los perfiles de aluminio (medida insulbar®) en mm **F** ► Distance entre les profils aluminium (dimension d'insulbar®) en mm **GR** ► Απόσταση μεταξύ των профίλ αλουμινίου (ύψος του insulbar®) σε mm **I** ► Distanza tra le due sezioni di alluminio (altezza dei Profili insulbar® in mm) **P** ► Distância do invólucro de alumínio (altura da insulbar®) em mm **PL** ► Odstęp pomiędzy sekcjami aluminiowymi (przerwa insulbar®) mm **RUS** ► Расстояние между алюминиевыми секциями (высота профиля insulbar®) в мм **TR** ► Alüminyum Profiller arası mesafe (insulbar® in yüksekliği) mm



With the latest processing technology for multi-directional orientation of the glass fibres. The result is a significantly improved mechanical response to the multidirectional stress loading that can occur in the application **D**► Durch modernste Verfahrenstechnik erhält man multidirektionale Glasfaserorientierung. Das Ergebnis ist ein wesentlich verbessertes mechanisches Verhalten gegenüber den in der Anwendung auftretenden, mehrachsigen Spannungszuständen **E**► A través de los sistemas más modernos de producción se obtiene una multiorientación de las fibras. El resultado es un material con unas propiedades mecánicas muy superiores a las de los restantes materiales disponibles en el mercado, merced a la mayor estabilidad multiaxial **F**► Notre procédé haute technologie permet l'orientation multidirectionnelle des fibres de verre. Le résultat, c'est un matériel avec des propriétés mécaniques nettement améliorées au sujet de la stabilité multiaxiale. **GR**► Με την τελευταία λέξη της τεχνολογίας για προσανατολισμό πολλαπλών κατευθύνσεων των ινών γυαλιού. Το αποτέλεσμα είναι μια σημαντικά βελτιωμένη αντοχή σε μηχανικές καταπονήσεις-φορτίσεις που μπορούν να προέρχονται από πολλές διαφορετικές κατευθύνσεις μέσα στην εφαρμογή **I**► L'ultimo ritrovato della tecnologia di processo, consente l'orientamento multidirezionale delle fibre di vetro. Il risultato dal punto di vista meccanico è eccellente, soprattutto quando nel sistema si hanno sollecitazioni multidirezionali **P**► A través da mais moderna técnica de processa-

mento obtém-se uma orientação multidirecional das fibras de vidro. O resultado é uma melhora significativa no comportamento mecânico perante às condições de tensões multidirecionais, que aparecem durante a utilização **PL**► Dzięki najnowocześniejszej technologii otrzymuje się wielokierunkową orientację włókien szklanych. Efektem jest znaczna poprawa wytrzymałości mechanicznej na występujące w praktyce wieloosiowe stany naprężeń **RUS**► Благодаря современной производственной технологии, выпускается стекловолокно с разным направлением волокон. Результат – существенное улучшение механических свойств относительно многоосного состояния напряжения, возникающего в процессе эксплуатации **TR**► En son üretim teknolojisi ile cam elyafinin çok yönlü olarak dağıtılması sonucu uygulama üzerinde meydana gelecek çok yönlü yüke karşı geliştirilmiş mekanik dayanım

glass fibre



YOUR PARTNER

WORLDWIDE



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