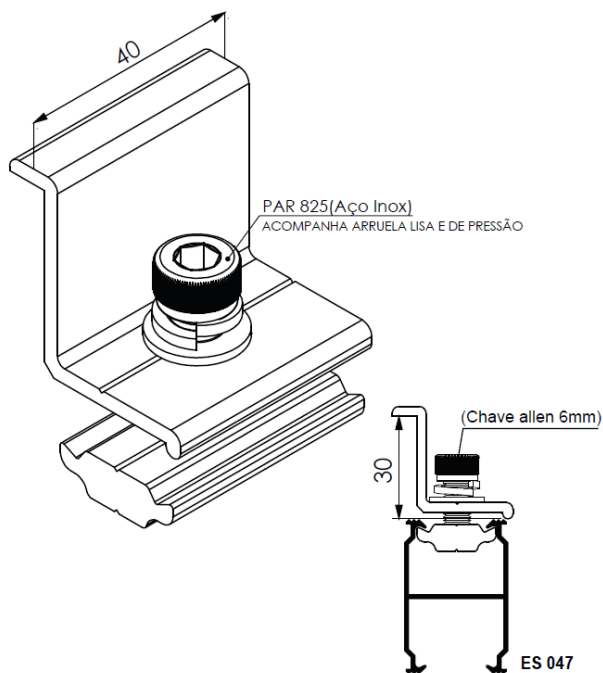


ENERGIA SOLAR

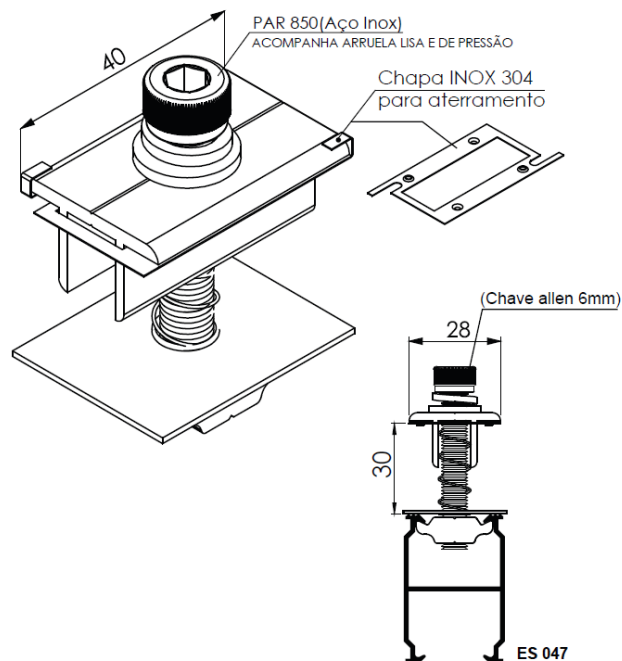
SUP 930

FIXADOR LATERAL DO PAINEL 30mm
PARA PERFIL ES 047/ ES 062/ ES 066 / ES 068



SUP 932

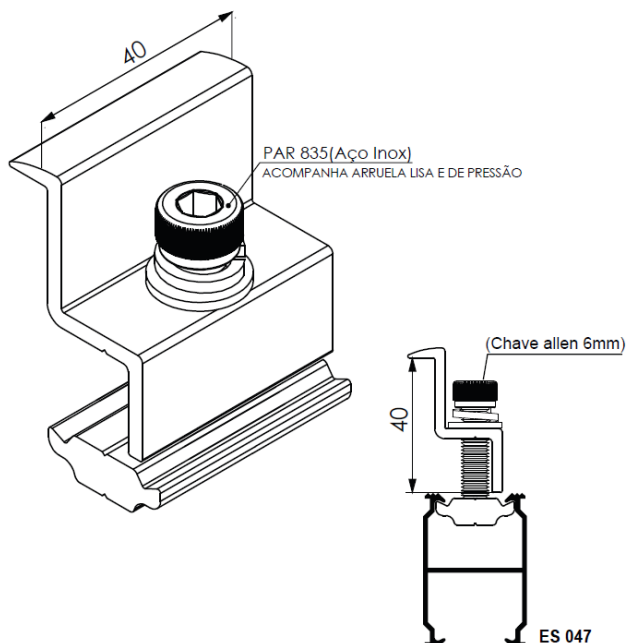
FIXADOR INTERMEDIÁRIO DO PAINEL 30mm
PARA PERFIL ES 047/ ES 062/ ES 066 / ES 068



ENERGIA SOLAR

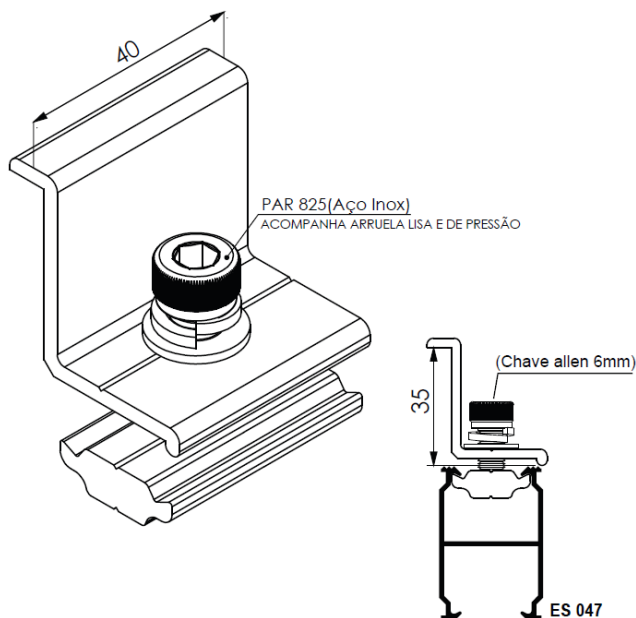
SUP 934

FIXADOR LATERAL DO PAINEL 40mm
PARA PERFIL ES 047/ ES 062/ ES 066 / ES 068



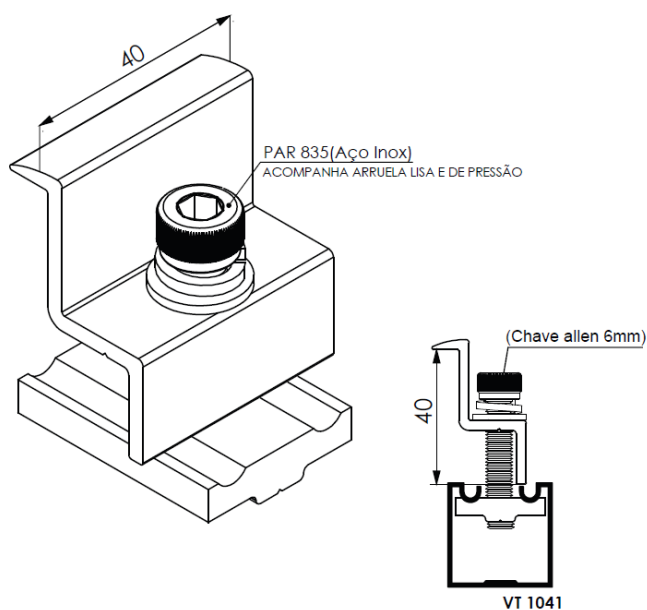
SUP 935

FIXADOR LATERAL DO PAINEL 35mm
PARA PERFIL ES 047/ ES 062 / ES 066 / ES 068



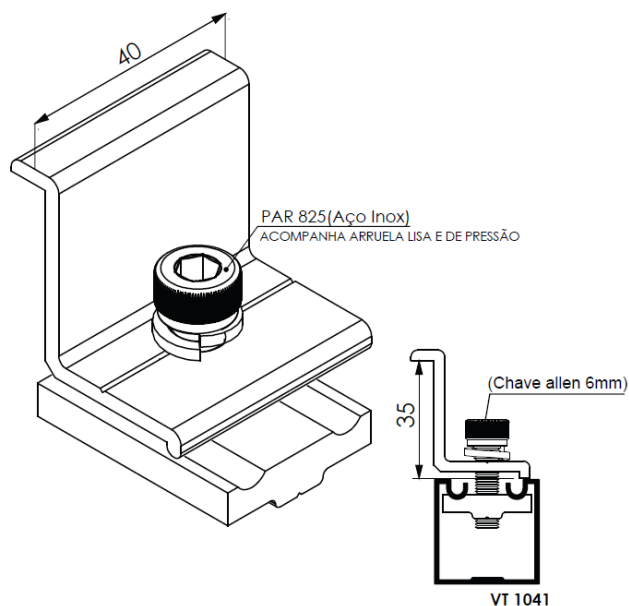
SUP 936.40

FIXADOR LATERAL DO PAINEL 40mm
PARA PERFIL VT 1041



SUP 936.35

FIXADOR LATERAL DO PAINEL 35mm
PARA PERFIL VT 1041



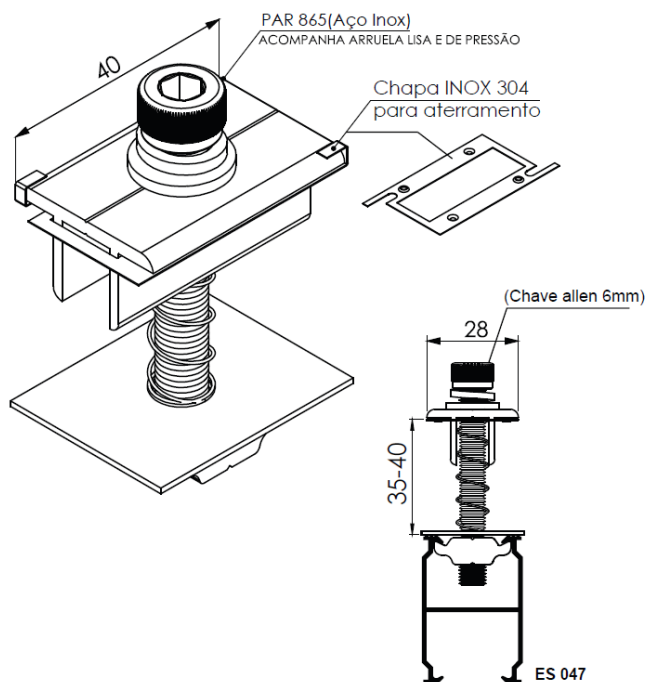
ENERGIA SOLAR

SUP 937

FIXADOR INTERMEDIÁRIO DO PAINEL

PARA PERFIL ES 047 / ES 062 / ES 066/ ES 068

Paineis de 35mm e 40mm de altura

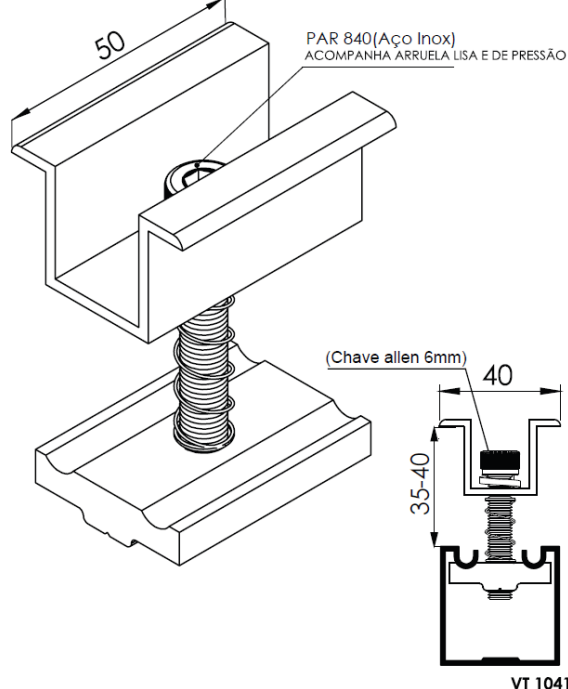


SUP 938

FIXADOR INTERMEDIÁRIO DO PAINEL

PARA PERFIL VT 1041

Paineis de 35mm e 40mm de altura

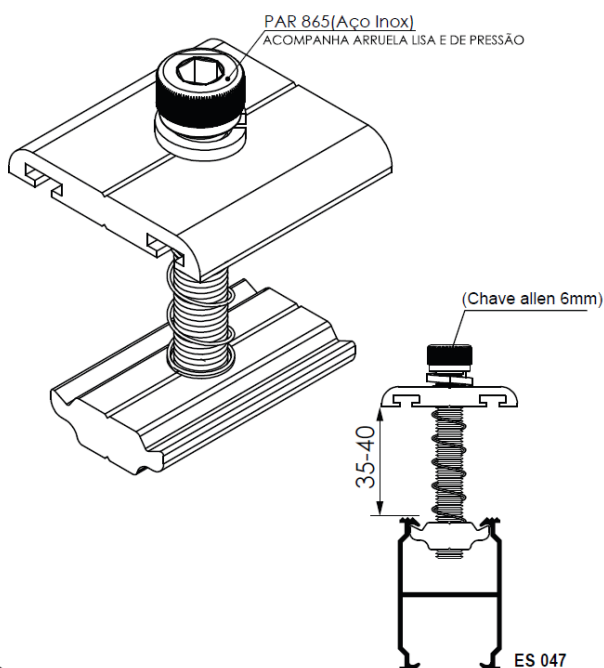


SUP 937A

FIXADOR INTERMEDIÁRIO DO PAINEL

PARA PERFIL ES 047 / ES 062 / ES 066/ ES 068

Paineis de 35mm à 40mm de altura

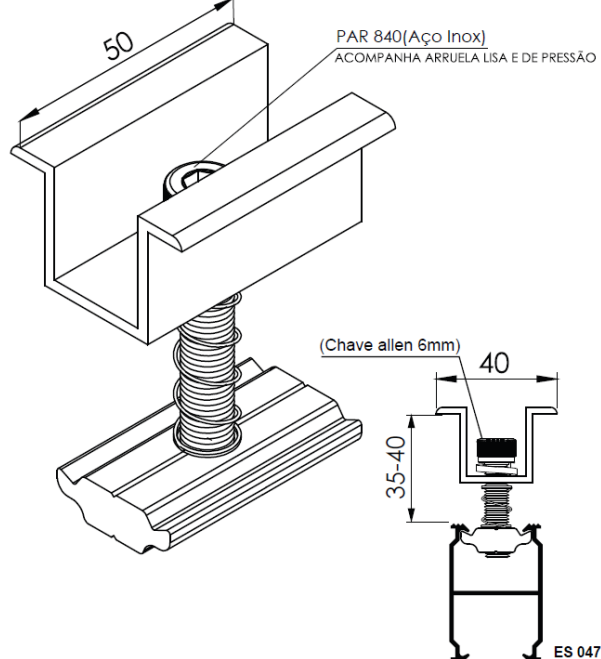


SUP 937C

FIXADOR INTERMEDIÁRIO DO PAINEL

PARA PERFIL ES 062 / ES 066 / ES 068

Paineis de 35mm à 40mm de altura

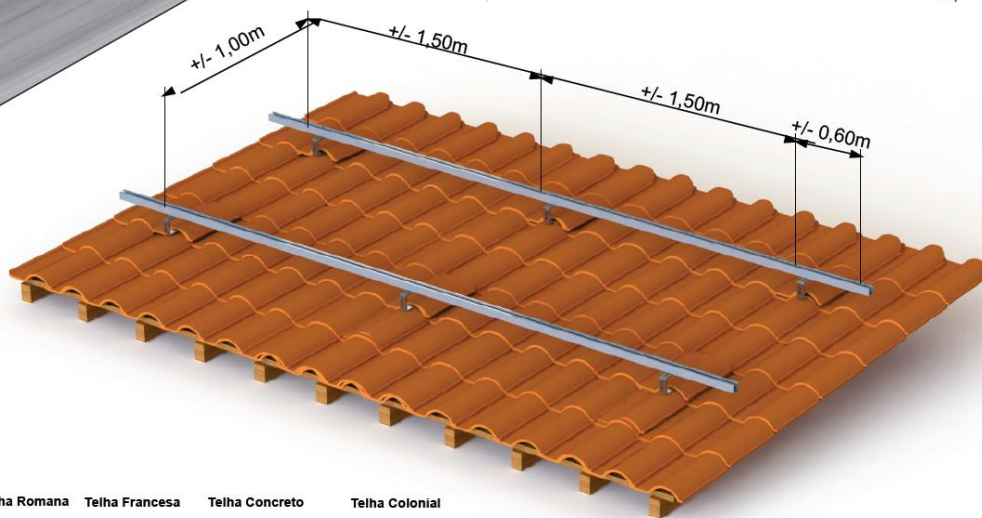
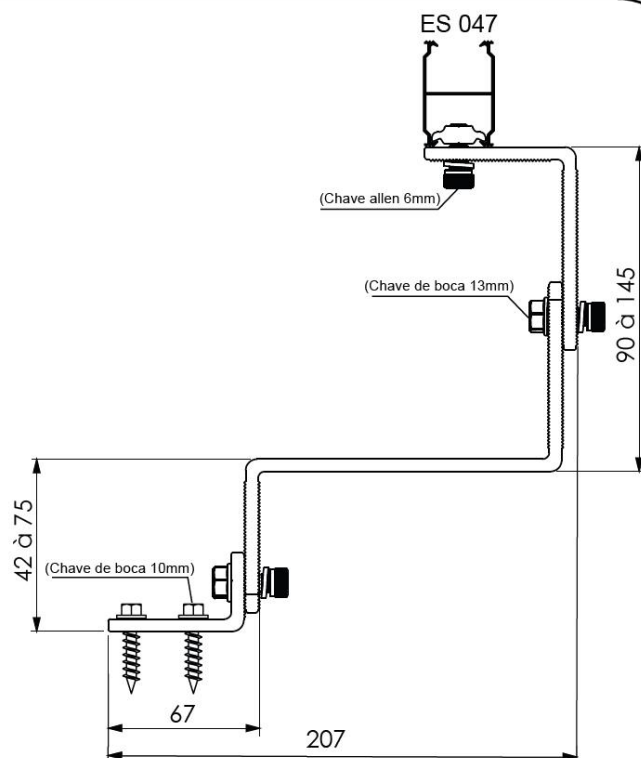
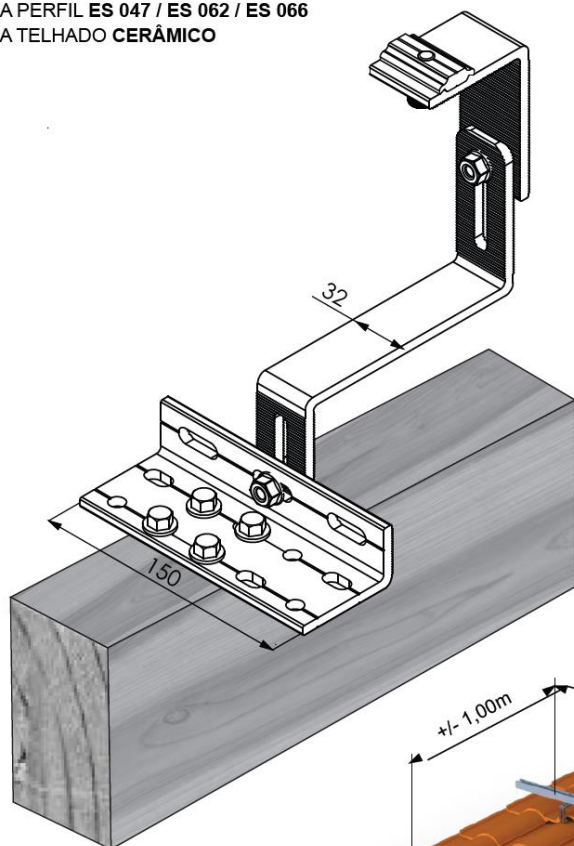


ENERGIA SOLAR

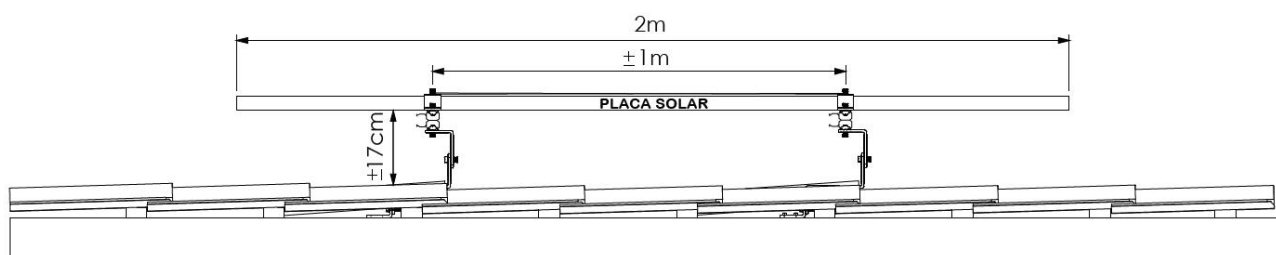
SUP 940

SUPORE DO PAINEL / MICRO INVERSOR

PARA PERFIL ES 047 / ES 062 / ES 066
PARA TELHADO CERÂMICO



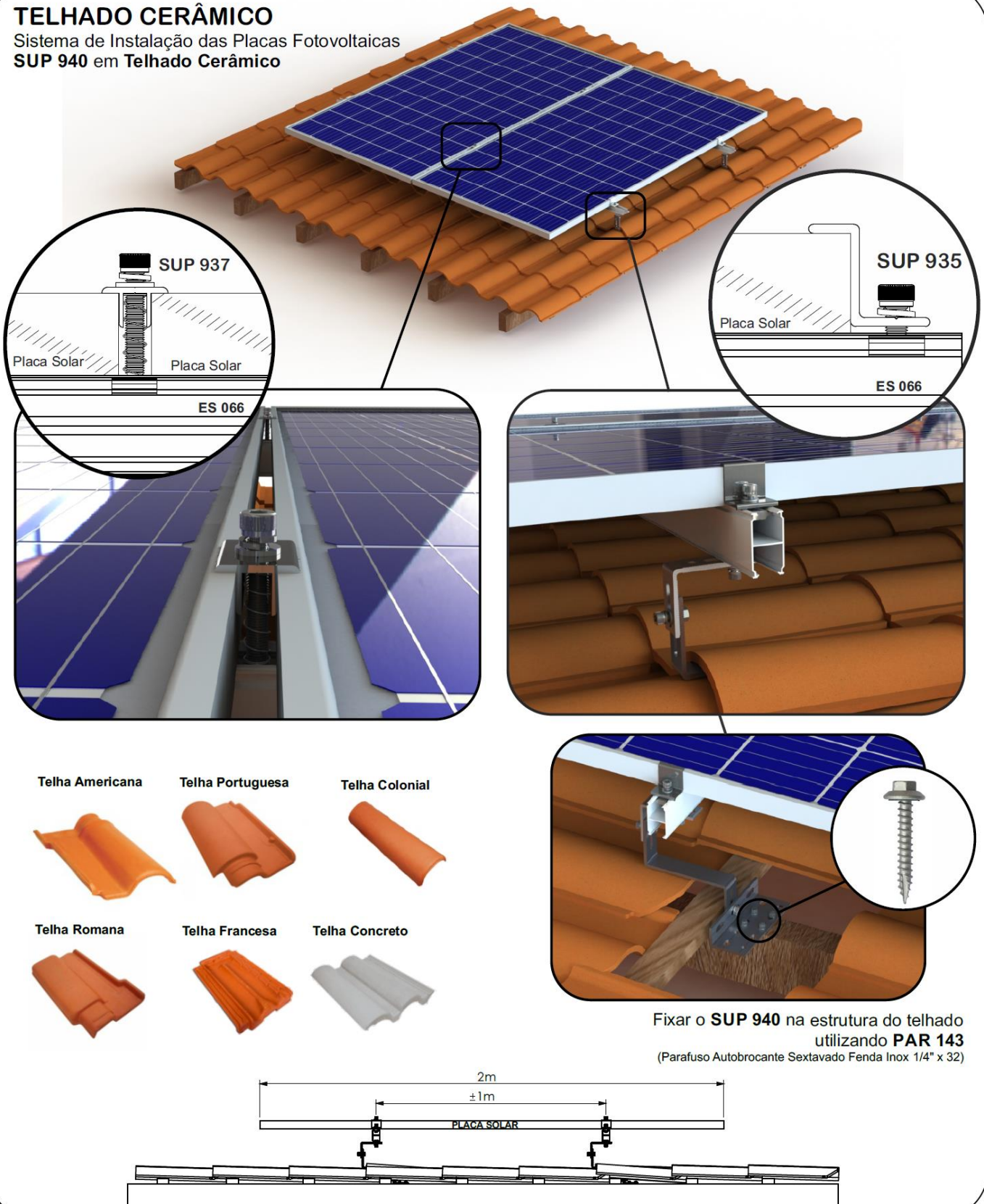
Telha Americana Telha Portuguesa Telha Romana Telha Francesa Telha Concreto Telha Colonial



ENERGIA SOLAR

TELHADO CERÂMICO

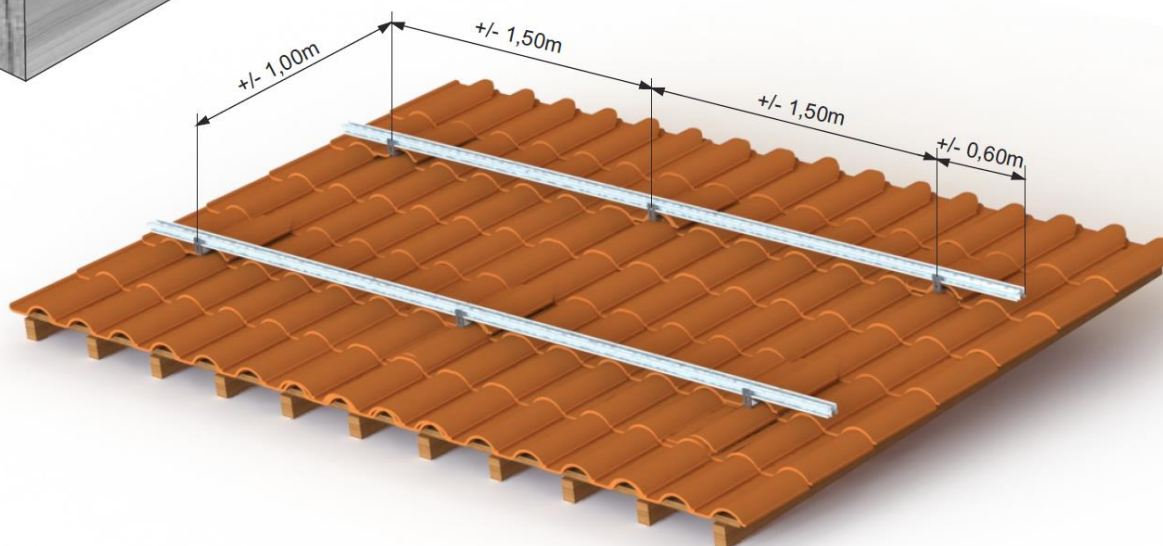
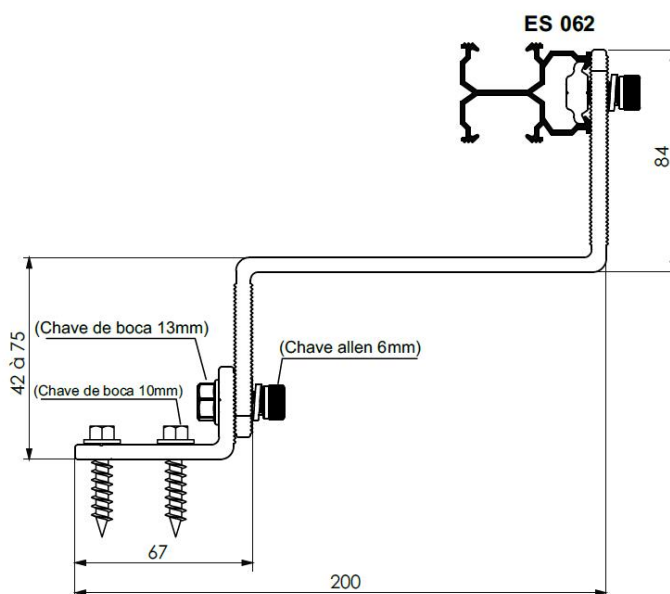
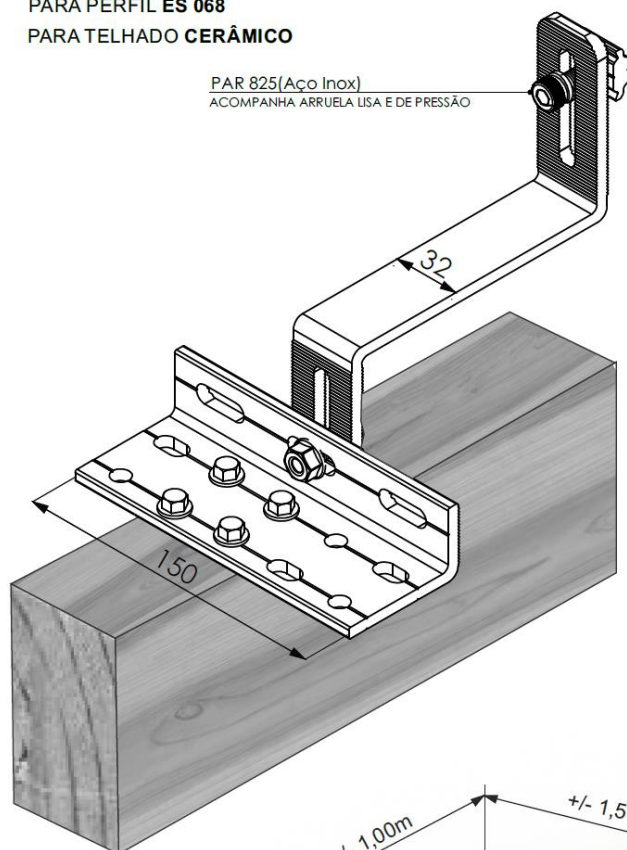
Sistema de Instalação das Placas Fotovoltaicas
SUP 940 em Telhado Cerâmico



ENERGIA SOLAR

SUP 941 SUPORTE DO PAINEL PARA PERFIL ES 068 PARA TELHADO CERÂMICO

PAR 825 (Aço Inox)
ACOMPANHA ARRUELA LISA E DE PRESSÃO



Telha Francesa



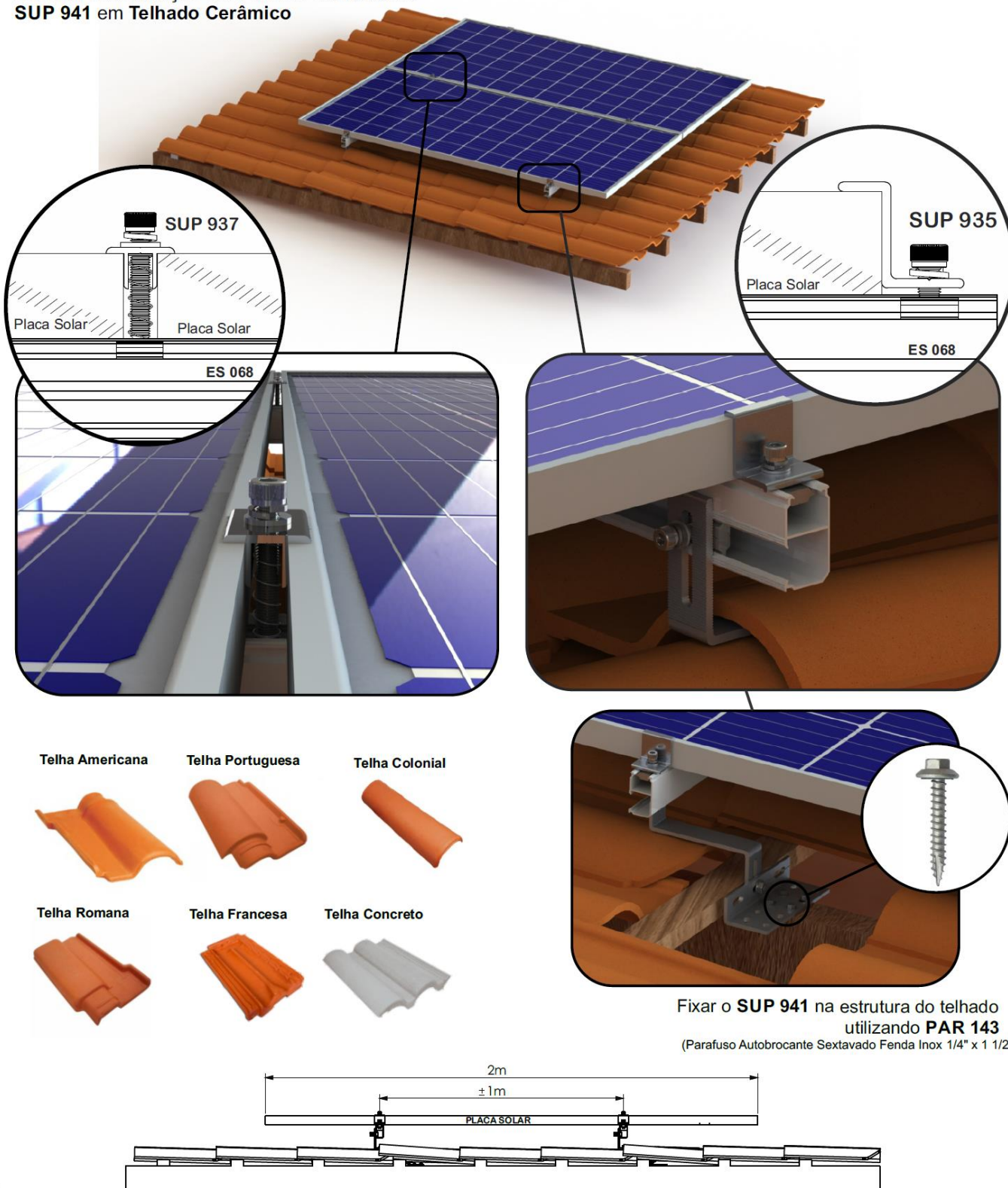
Telha Concreto



ENERGIA SOLAR

TELHADO CERÂMICO

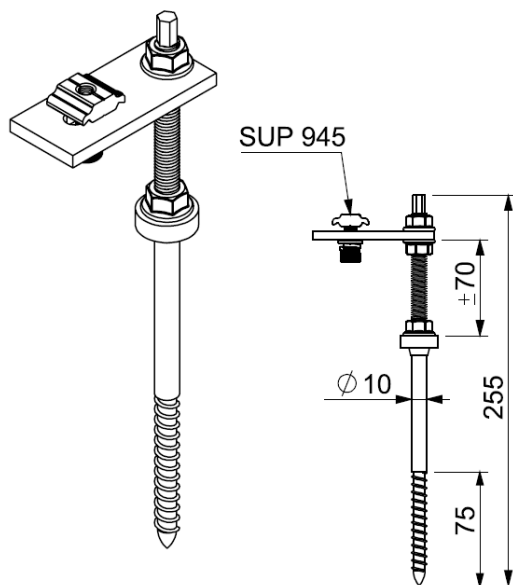
Sistema de Instalação das Placas Fotovoltaicas
SUP 941 em Telhado Cerâmico



ENERGIA SOLAR

SUP 942

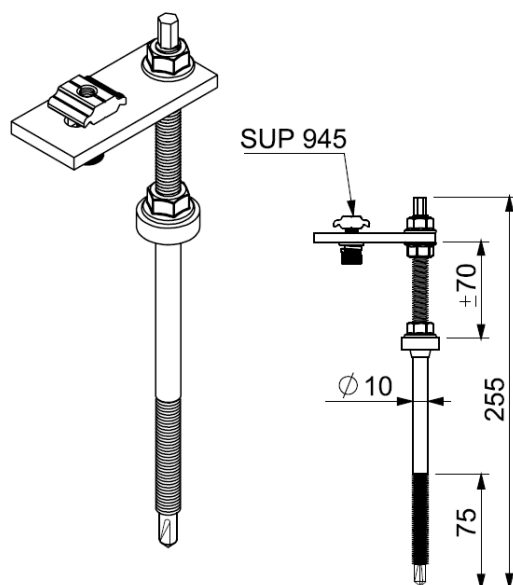
CONJUNTO HASTE DE FIXAÇÃO DO PAINEL
 PARA TELHADO FIBROCIMENTO



Parafuso Auto Atarrachante

SUP 943

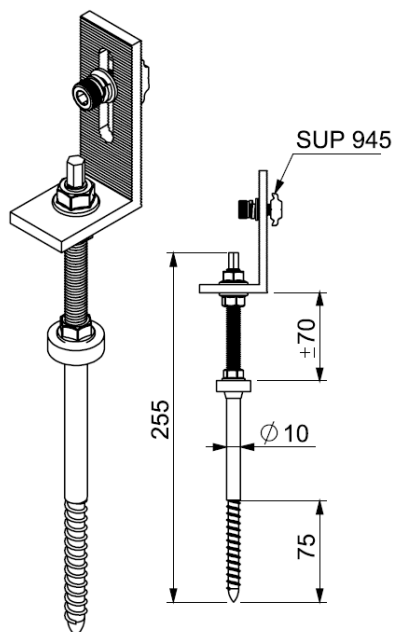
CONJUNTO HASTE DE FIXAÇÃO DO PAINEL
 PARA TELHADO FIBROCIMENTO



Parafuso Autobrocante

SUP 955

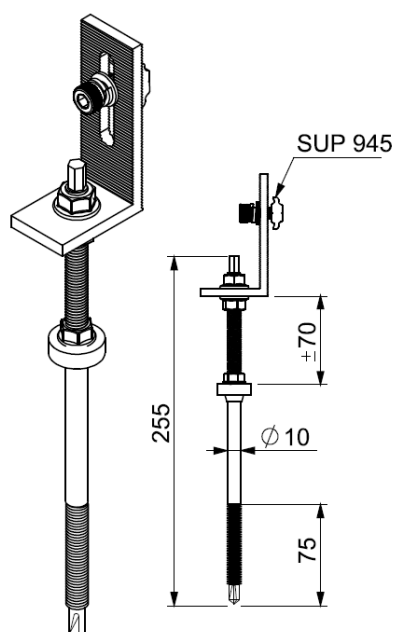
SUPORE DE FIXAÇÃO DO PAINEL
 PARA TELHADO FIBROCIMENTO - CAIBRO MADEIRA



Parafuso Auto Atarrachante

SUP 956

SUPORE DE FIXAÇÃO DO PAINEL
 PARA TELHADO FIBROCIMENTO - CAIBRO MADEIRA

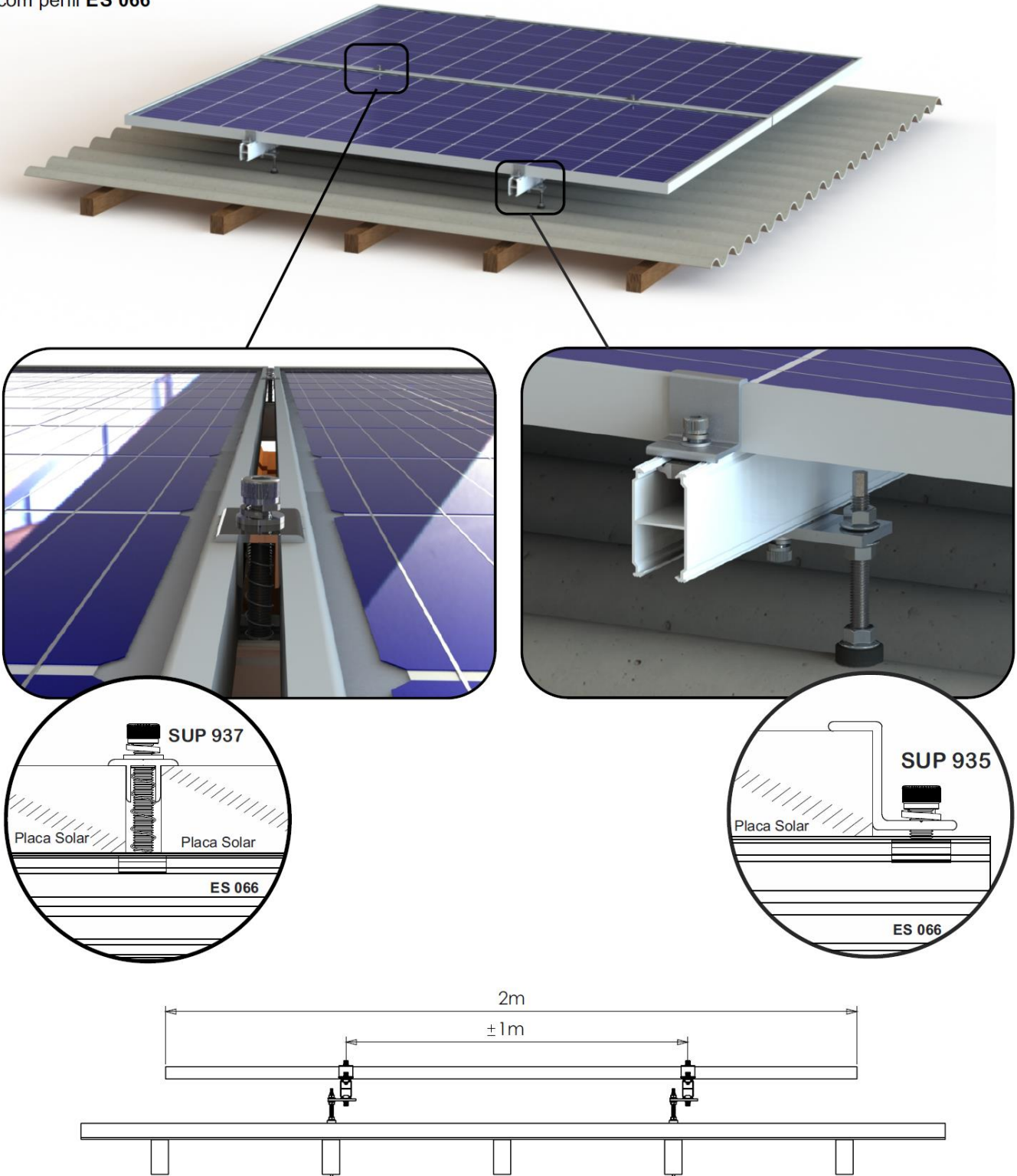


Parafuso Autobrocante

ENERGIA SOLAR

TELHADO FIBROCIMENTO

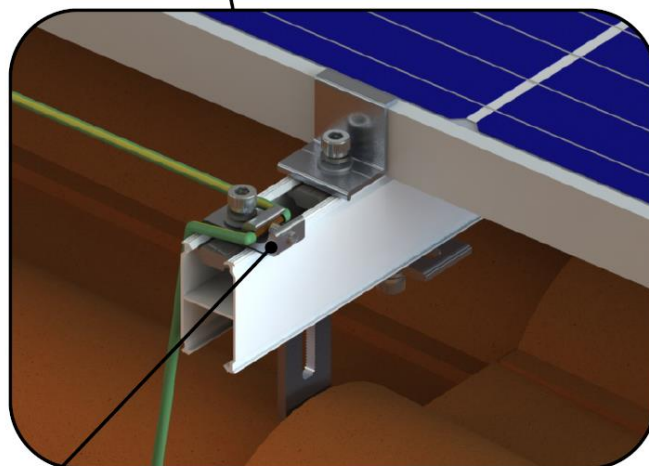
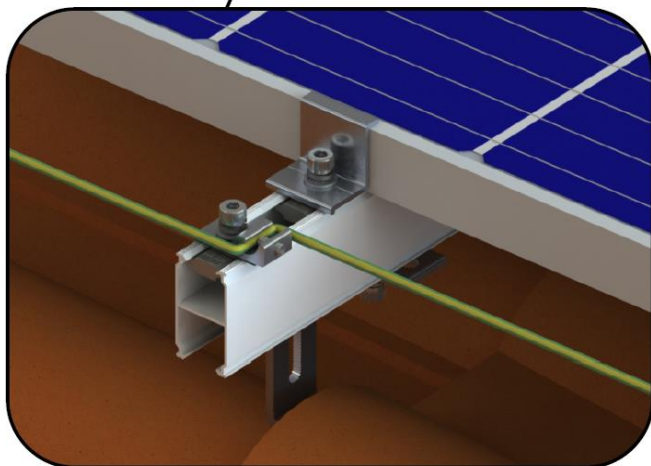
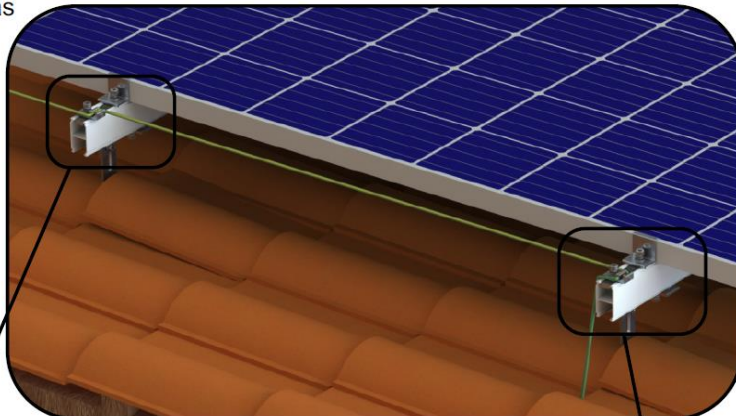
Sistema de Instalação das Placas Fotovoltaicas
SUP 955/956 em Telhado Fibrocimento
com perfil **ES 066**



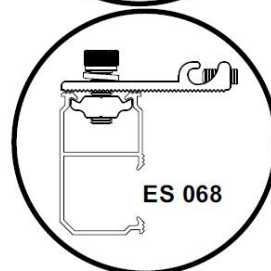
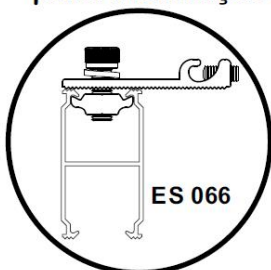
ENERGIA SOLAR

GRAMPOS DE ATERRAMENTO

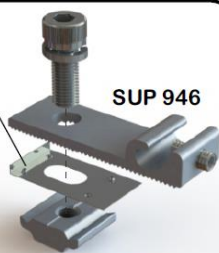
Sistema de Aterramento e fixação dos cabos das Placas Fotovoltaicas



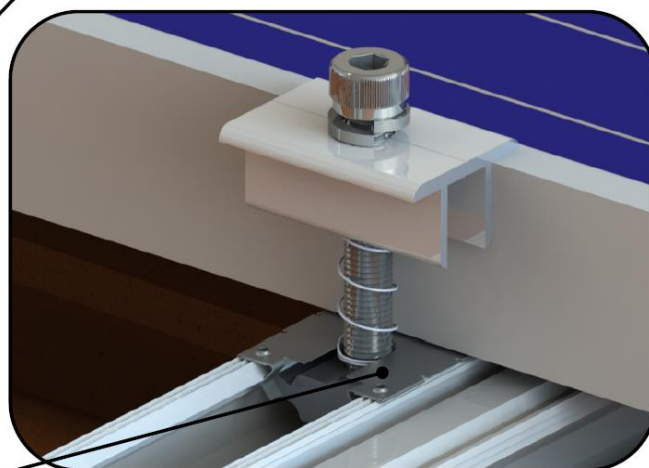
Opções de Perfis para instalação



GR 02



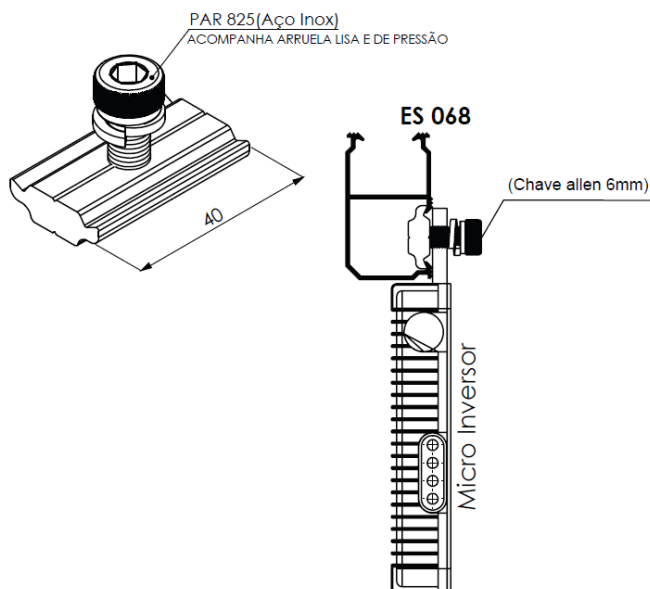
GR 01



ENERGIA SOLAR

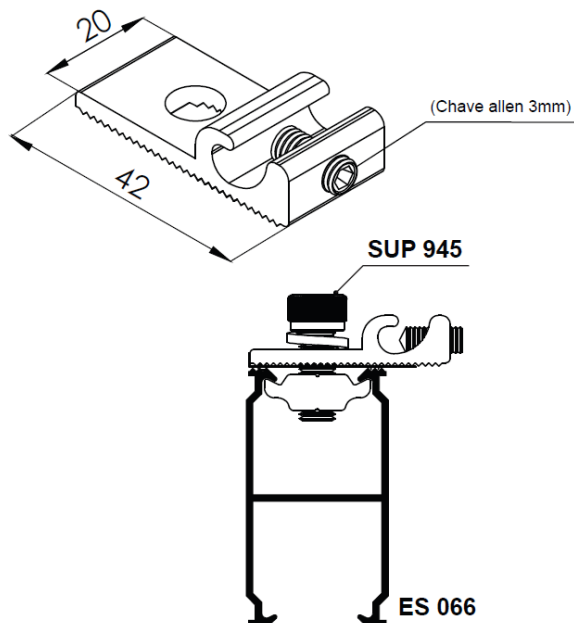
SUP 945

FIXADOR DO MICRO INVERSOR
PARA PERFIL ES 062 / ES 066 / ES 068



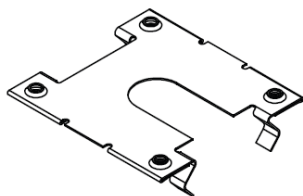
SUP 946

SUPORE DE ATERRAMENTO
PARA PERFIL ES 062 / ES 064



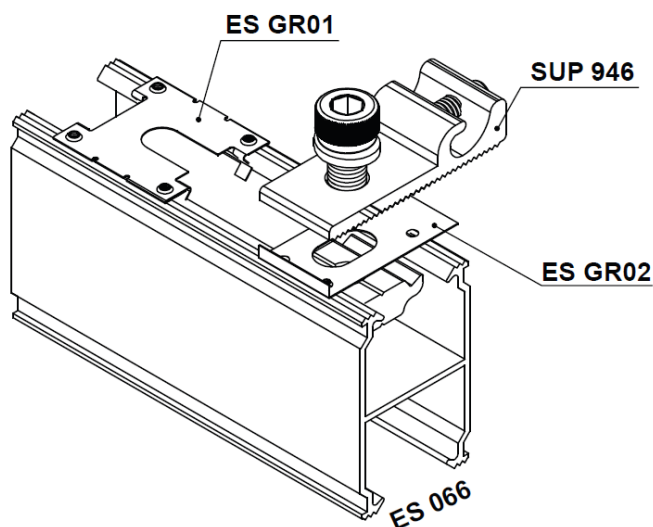
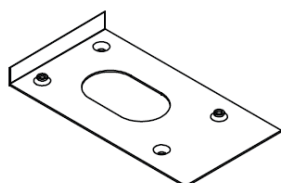
ES GR01

GRAMPO DE ATERRAMENTO DOS MÓDULOS
SUP 935 e SUP 937
PARA PERFIL ES 062 / ES 064



ES GR02

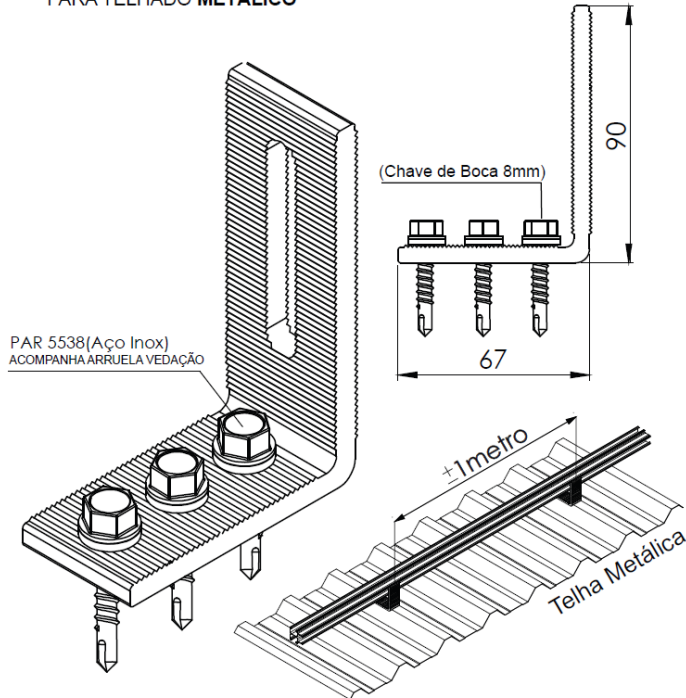
CHAPA DE ATERRAMENTO DO CABO
SUP 946
PARA PERFIL ES 062 / ES 064



ENERGIA SOLAR

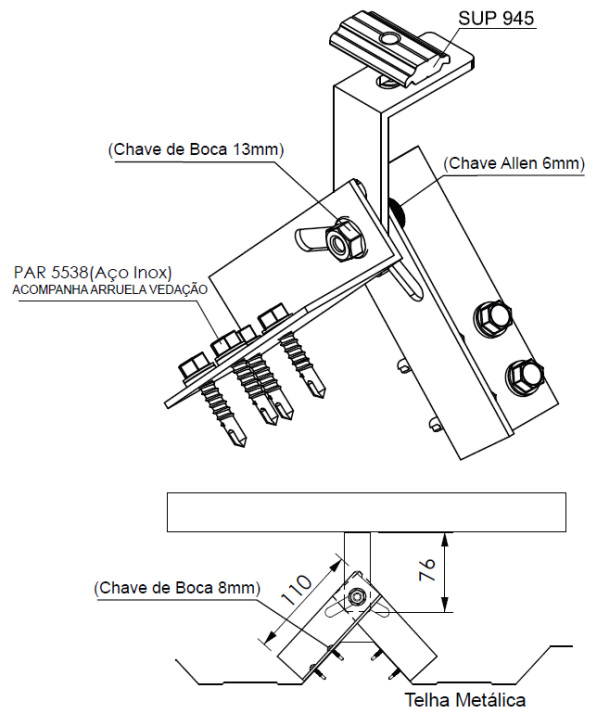
SUP 947

SUPORE DISTANCIADOR
PARA TELHADO METÁLICO



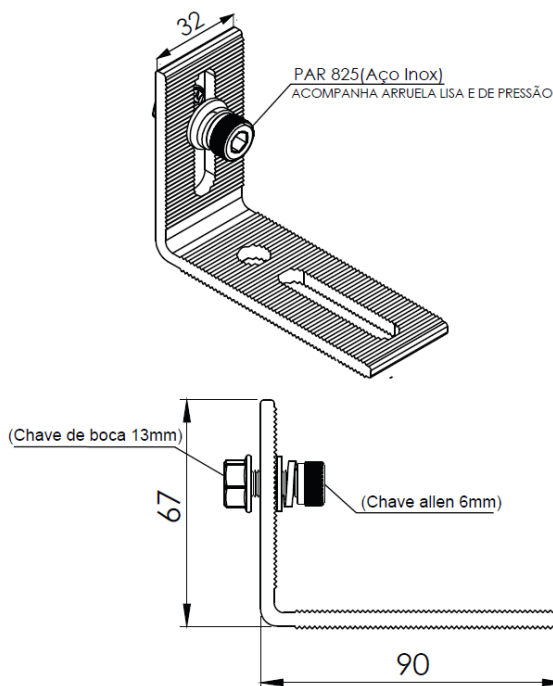
SUP 947B

SUPORE DISTANCIADOR
PARA TELHADO METÁLICO



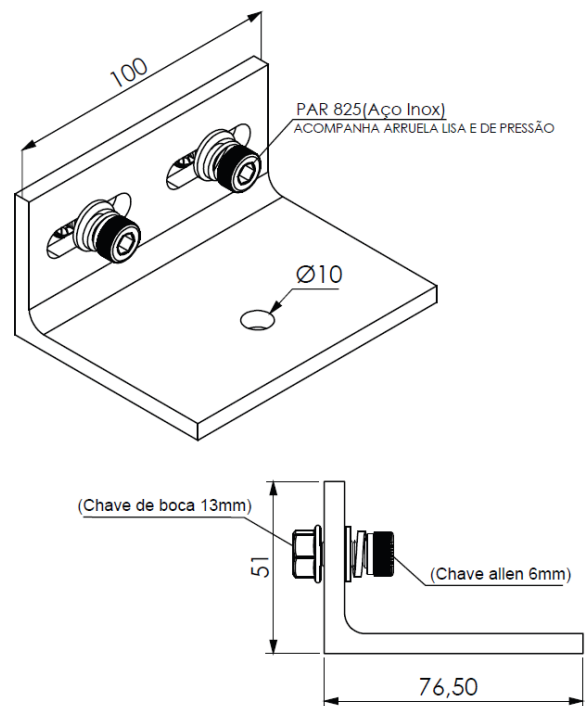
SUP 961

SUPORE L 90 x 67mm - NATURAL



SUP 965

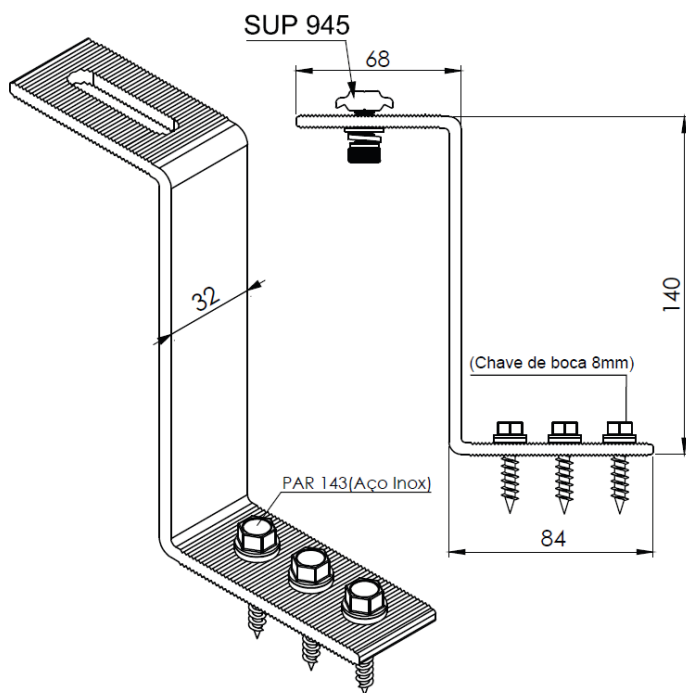
SUPORE L 51 x 76,50 - NATURAL



ENERGIA SOLAR

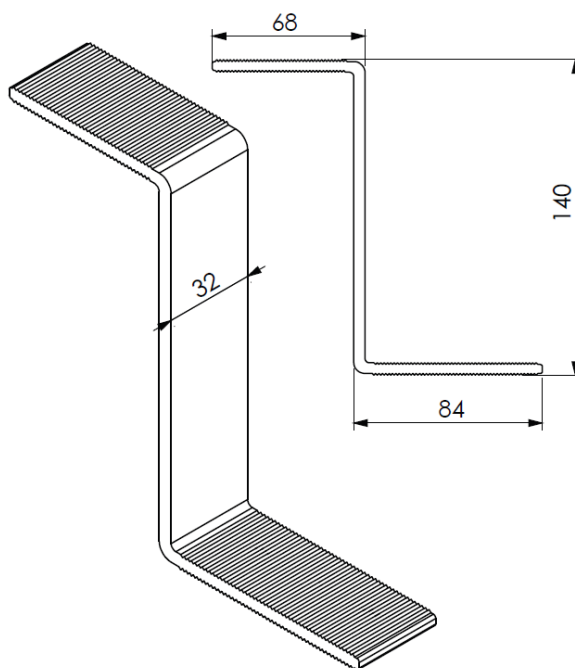
SUP 962

SUPORTE S 68 x 140 x 84mm - NATURAL



SUP 963

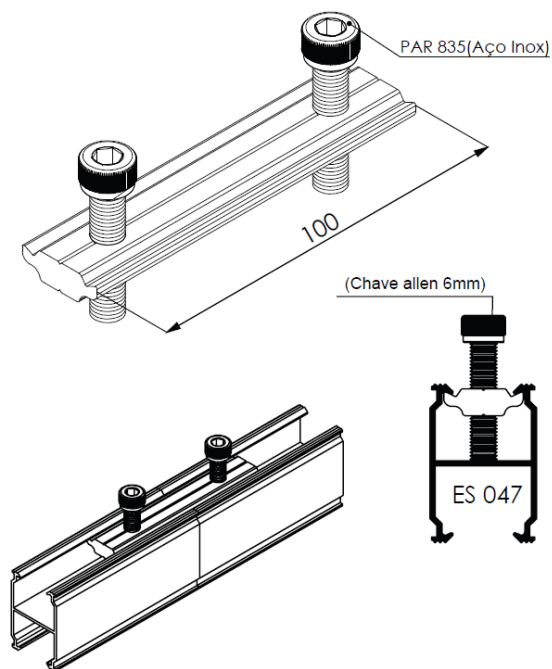
SUPORTE S 68 x 140 x 84mm - NATURAL
 sem usinagem



SUP 944

CONEXÃO

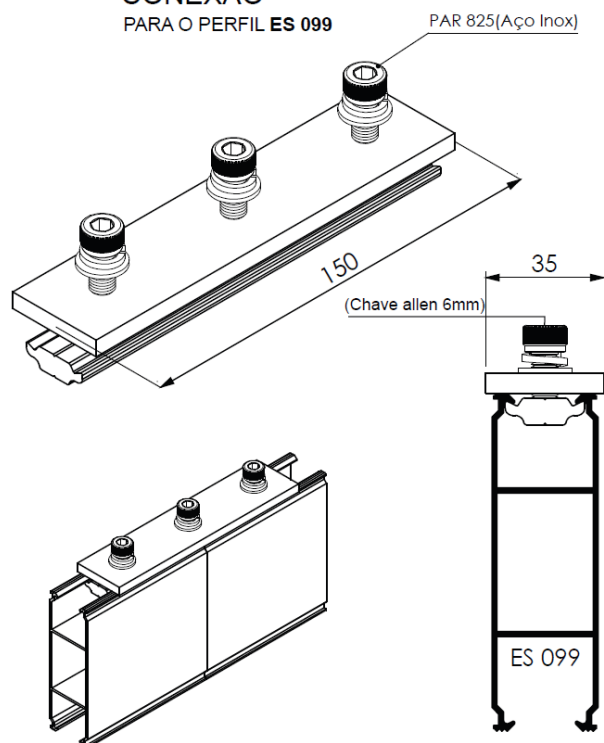
PARA O PERFIL ES 047 / ES 062 / ES 066 / ES 068



SUP 968

CONEXÃO

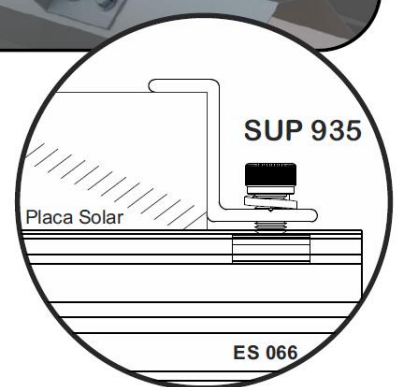
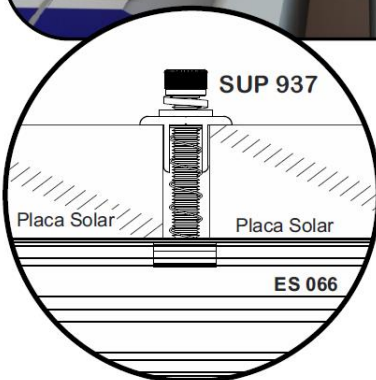
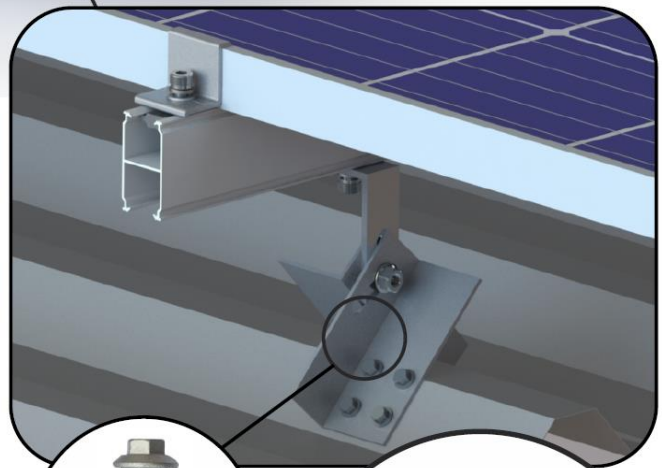
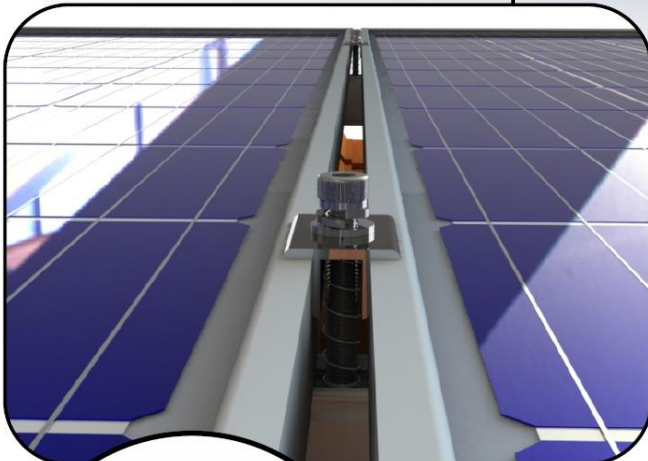
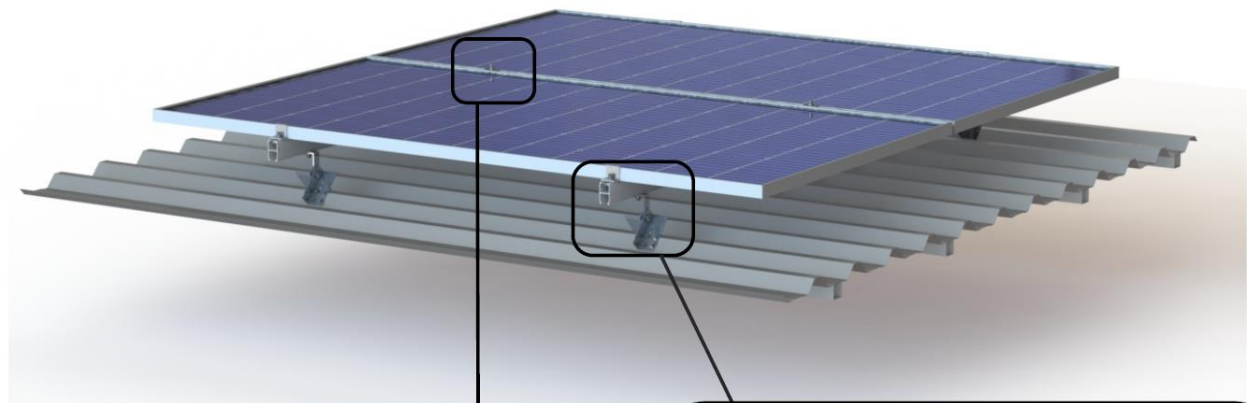
PARA O PERFIL ES 099



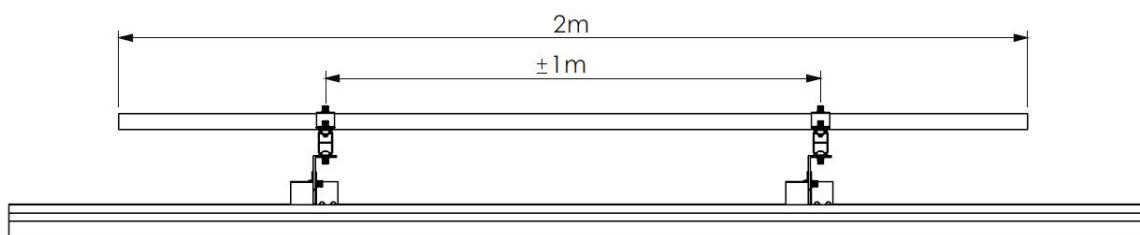
ENERGIA SOLAR

TELHADO METÁLICO

Sistema de Instalação das Placas Fotovoltaicas
SUP 947B no perfil **ES 066** em **Telhado Metálico**



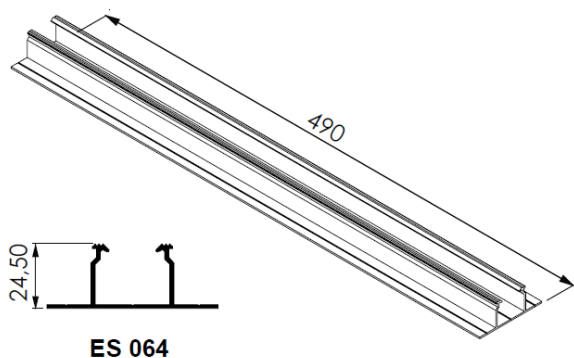
Fixar o **SUP 947B** no telhado Metálico
 utilizando **PAR 143**
 (Parafuso Autobrocante C.C Philips Inox 1" x 1 1/2")



ENERGIA SOLAR

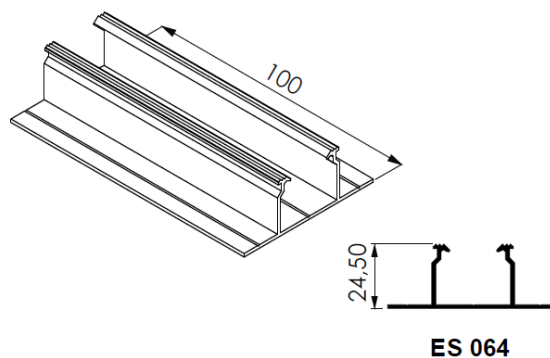
SUP 951

FIXADOR DO PAINEL p/ TELHADO METÁLICO
 SISTEMA MEIO TRILHO



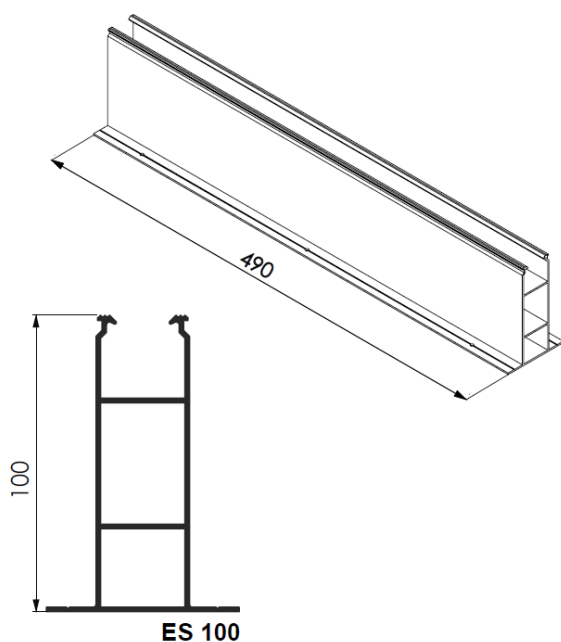
SUP 952

FIXADOR DO PAINEL p/ TELHADO METÁLICO
 SISTEMA MEIO TRILHO



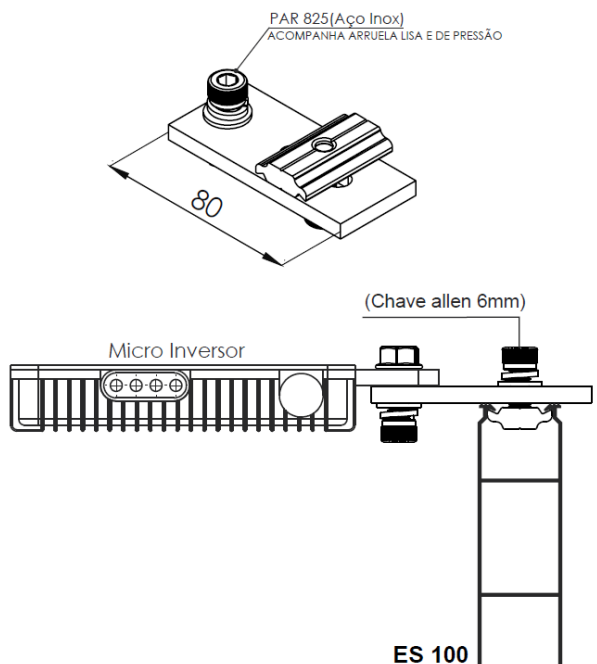
SUP 953

FIXADOR DO PAINEL p/ TELHADO METÁLICO
 SISTEMA MEIO TRILHO



SUP 954

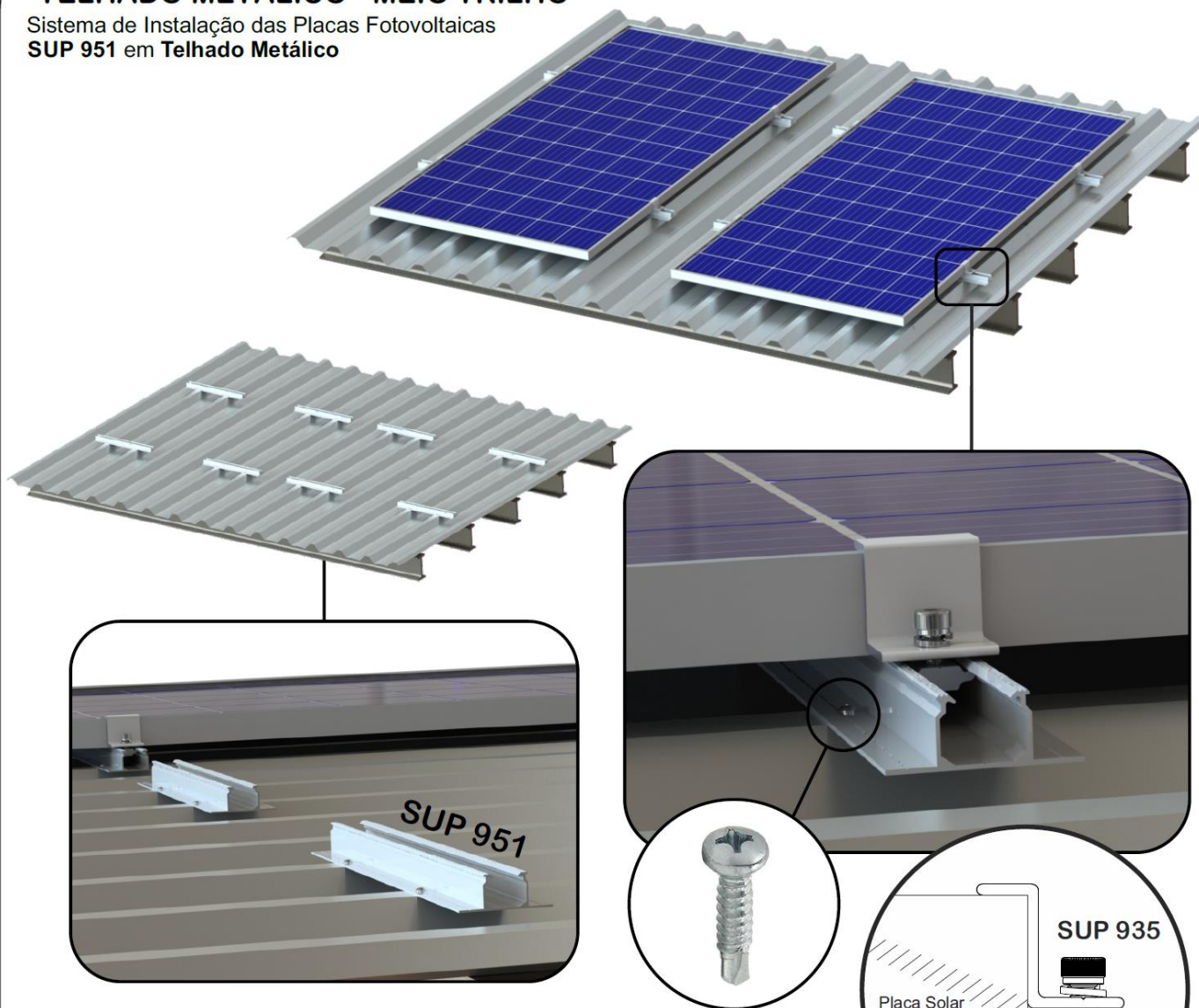
FIXADOR DO MICROINVERSOR
 p/ sistema meio trilho SUP 953



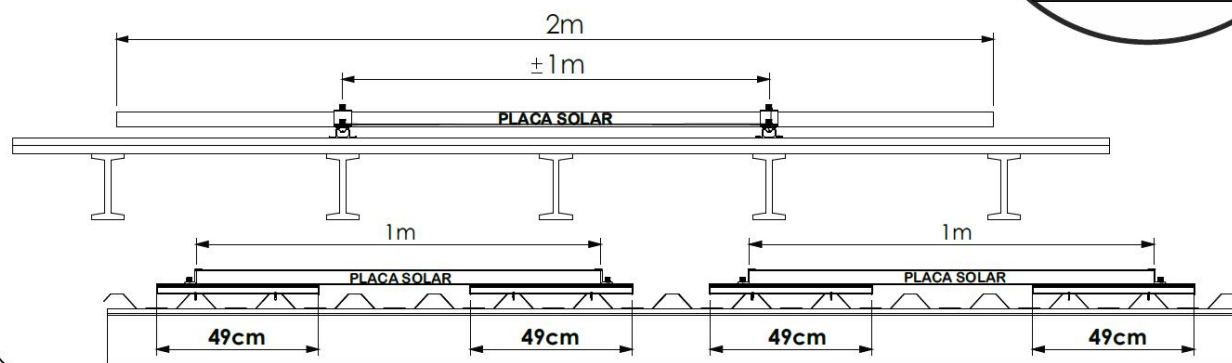
APLICAÇÃO DO PERFIL ES 064

TELHADO METÁLICO - MEIO TRILHO

Sistema de Instalação das Placas Fotovoltaicas
SUP 951 em Telhado Metálico



Fixar o **SUP 951** no telhado Metálico
 utilizando **PAR 181**
 (Parafuso Autobrocante C.C Philips Inox 5,50 x 38)
***PARAFUSO NÃO FORNECIDO**

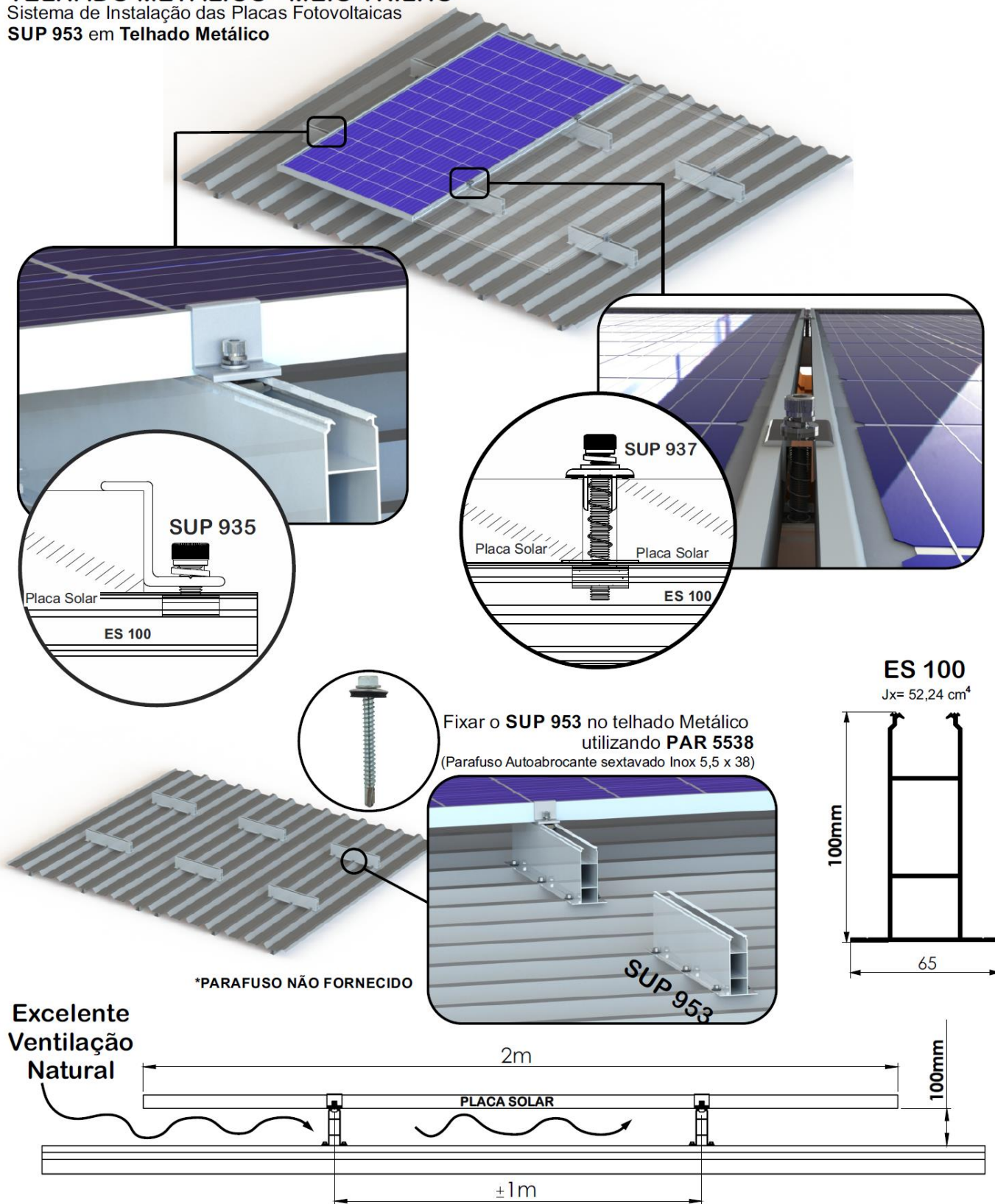


Aplicação do Perfil ES 100

TELHADO METÁLICO - MEIO TRILHO

Sistema de Instalação das Placas Fotovoltaicas

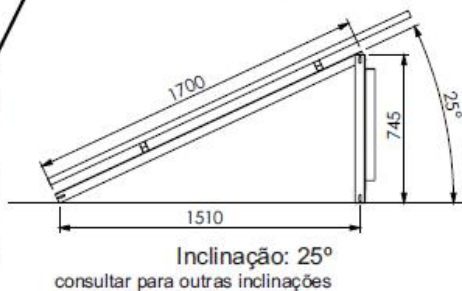
SUP 953 em Telhado Metálico



ENERGIA SOLAR

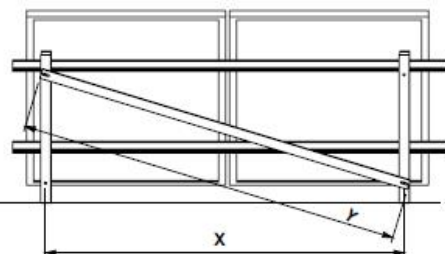
SUP 949

ESTRUTURA DE FIXAÇÃO P/ 2 PAINEIS FOTOVOLTAICOS
PARA LAJE/SOLO



Kit SUP 949

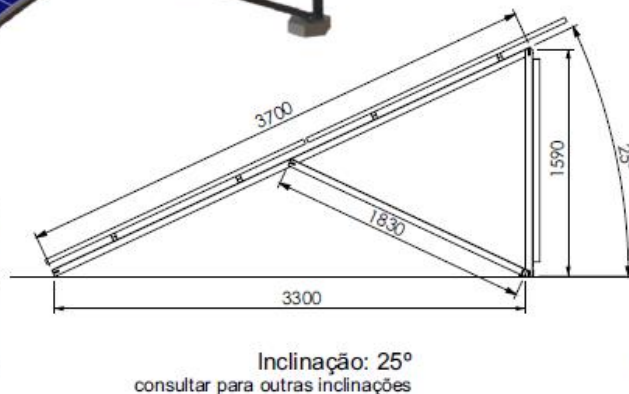
Quantidade	Acessórios
4	CHU 794
4	SUP 935
2	SUP 937



X, Y - Dimensionado conforme norma NBR 6123

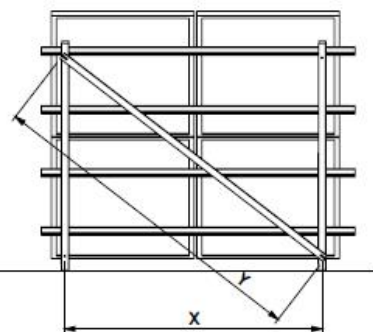
SUP 950

ESTRUTURA DE FIXAÇÃO P/ 4 PAINEIS FOTOVOLTAICOS
PARA LAJE/SOLO



Kit SUP 950

Quantidade	Acessórios
6	CHU 794
8	SUP 935
4	SUP 937

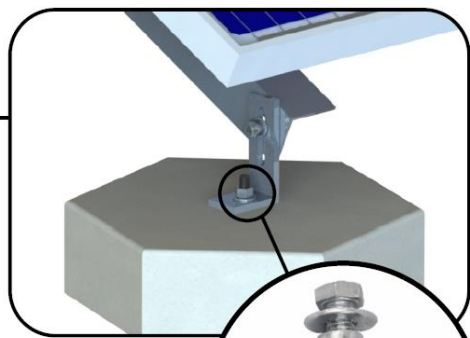
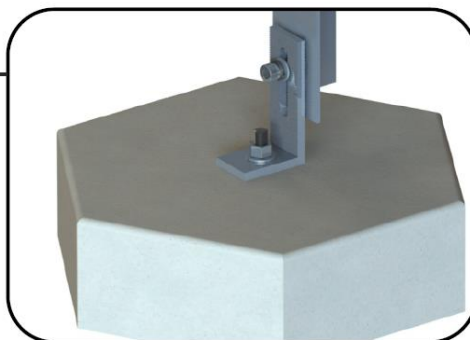
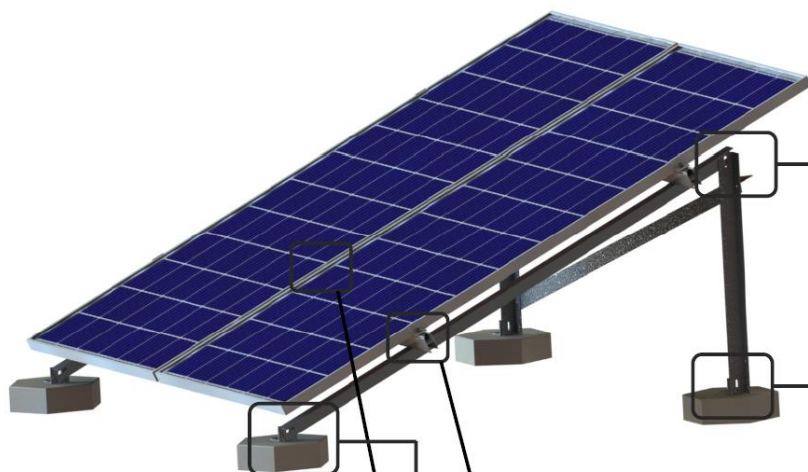


X, Y - Dimensionado conforme norma NBR 6123

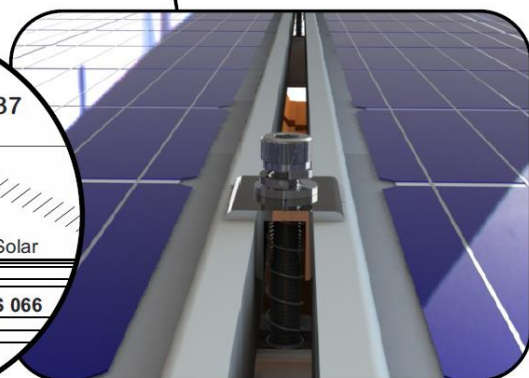
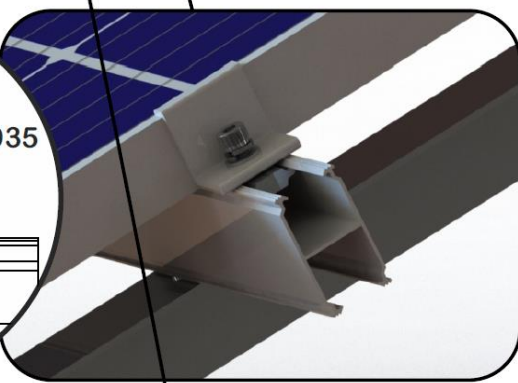
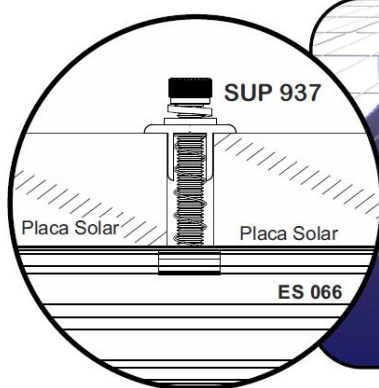
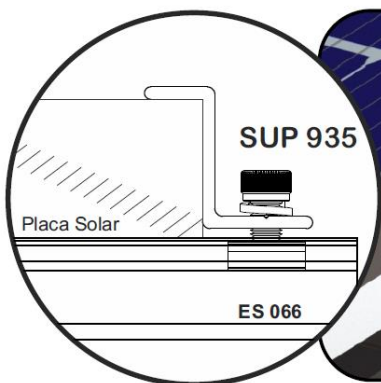
ENERGIA SOLAR

ESTRUTURA PARA LAJE

Sistema de Instalação das Placas Fotovoltaicas
SUP 949/950 com perfil **ES 066** para Laje



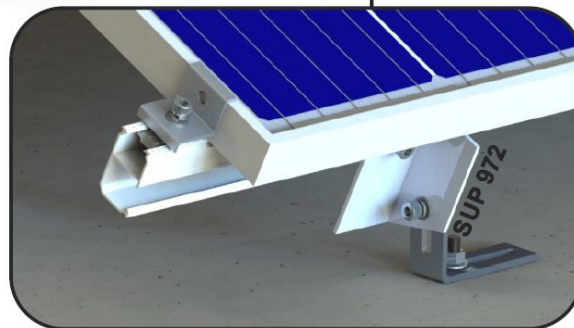
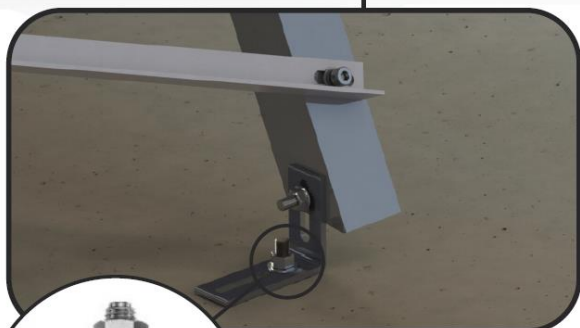
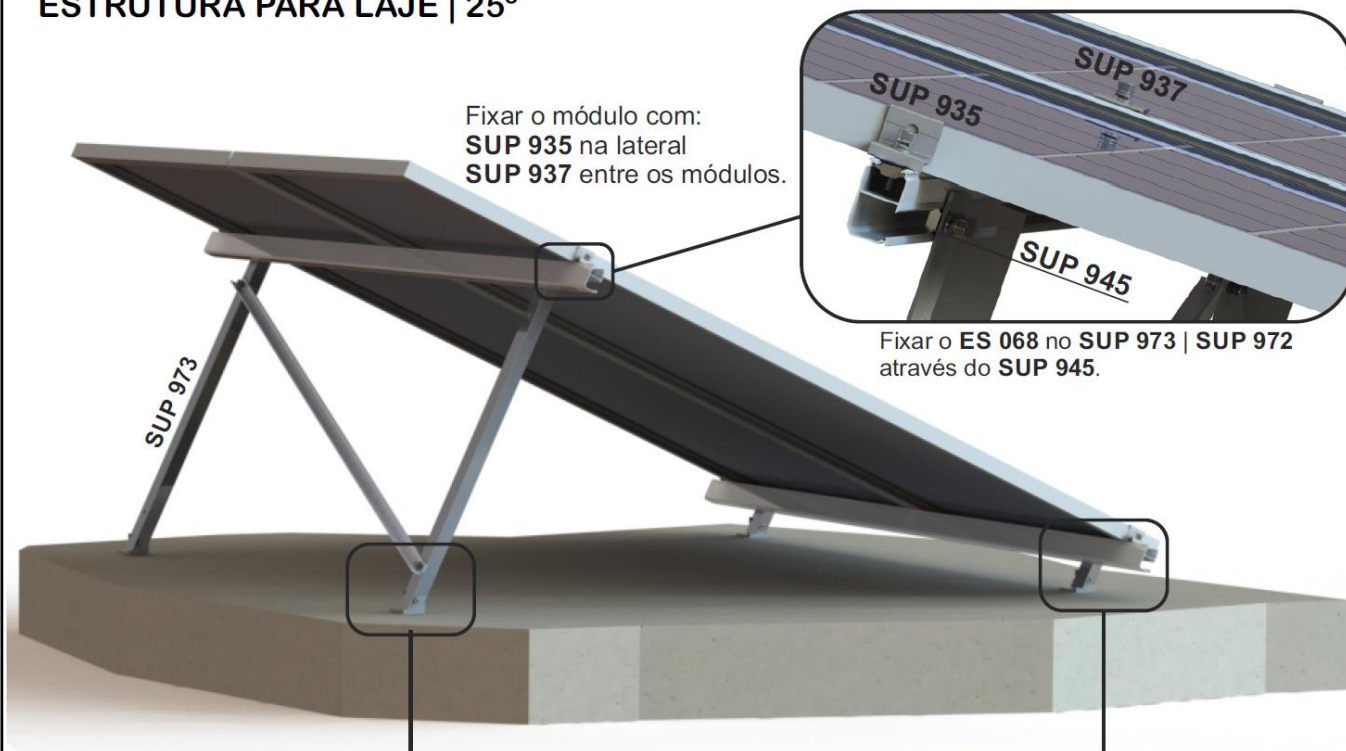
Utilizar **CHU 794**
 (Chumbador Parabolite)
 para chumbar a estrutura no paver/piso.



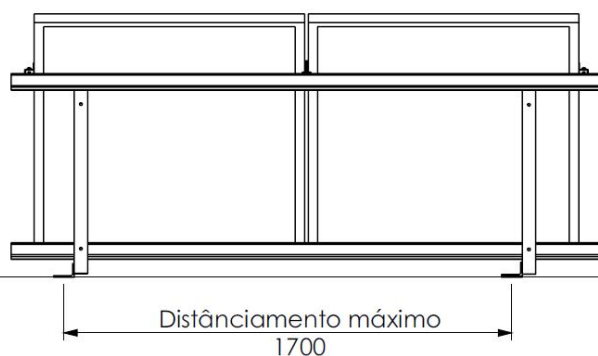
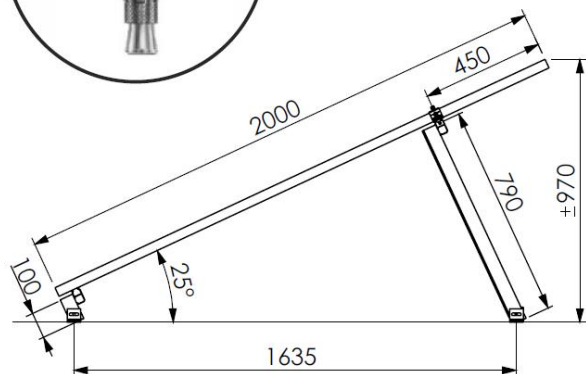
ENERGIA SOLAR

SUP 975

ESTRUTURA PARA LAJE | 25°



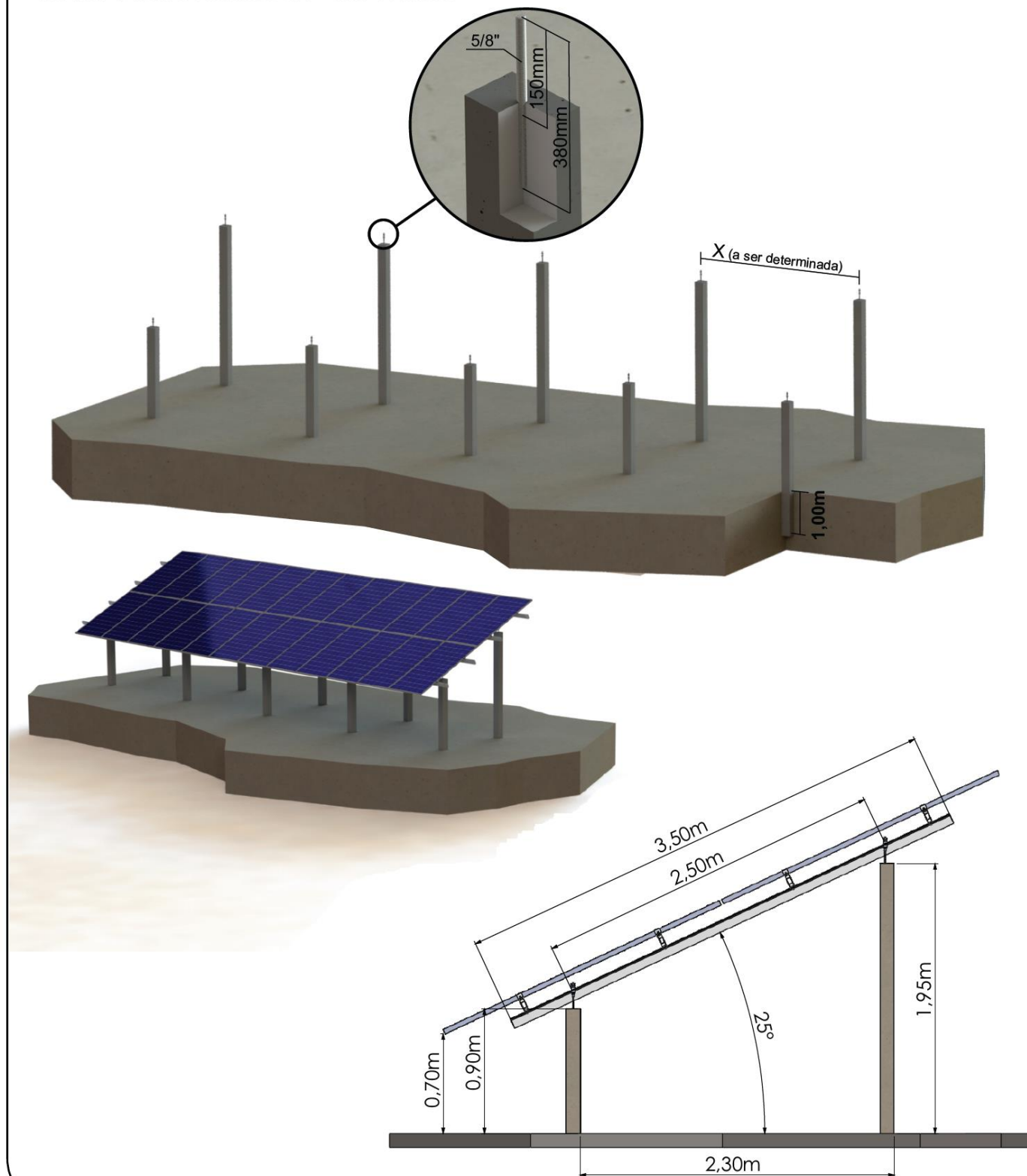
Fixar o **SUP 961**(base) na Laje,
 utilizando **CHU 794**(Chumbador Parabolt)



ENERGIA SOLAR

ESTRUTURA DE SOLO | 25°

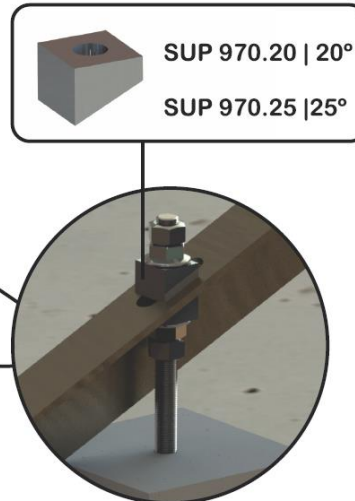
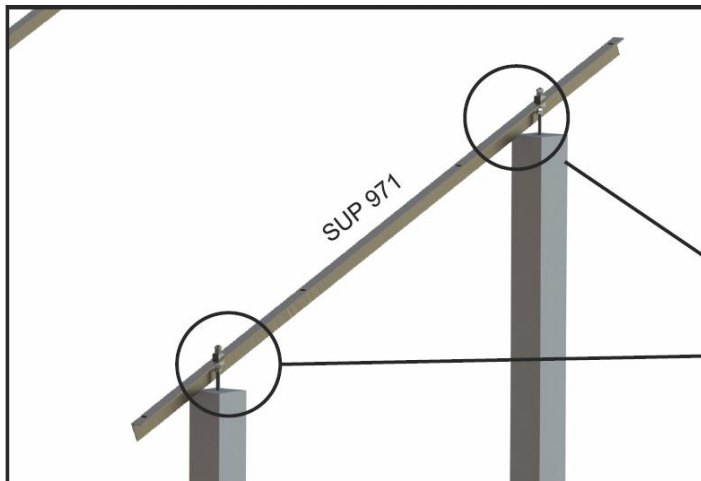
1. Fixar a barra rosca 5/8" nas colunas



ENERGIA SOLAR

ESTRUTURA DE SOLO - SUP 970-20 | SUP 970-25

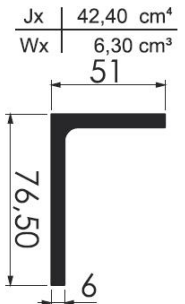
2. Fixar o SUP 971 na barra roscada M12, utilizando o SUP 970.20 | SUP 970.25 e porcas.



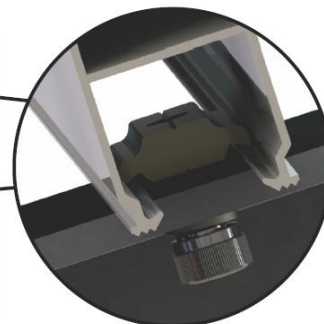
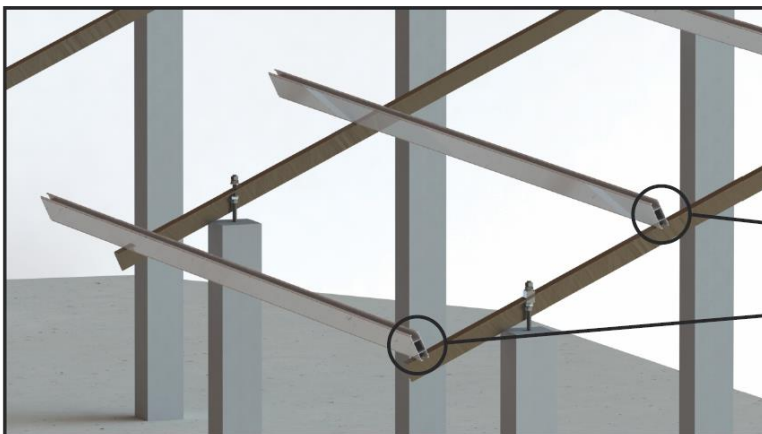
SUP 970.20 | 20°

SUP 970.25 | 25°

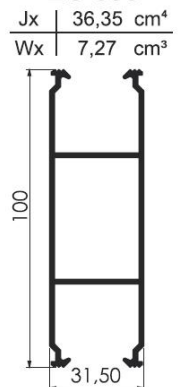
SUP 971



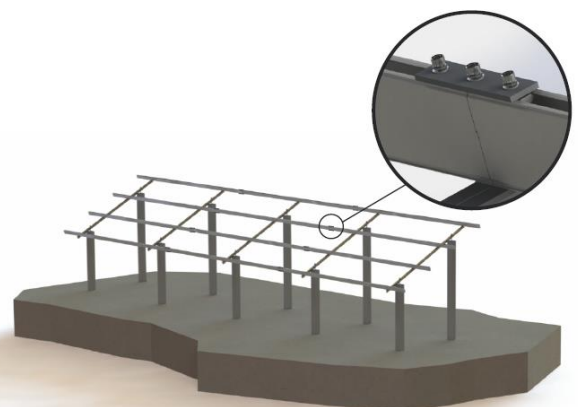
3. Fixar o perfil ES 099 na furação do SUP 971, através do SUP 945.



ES 099

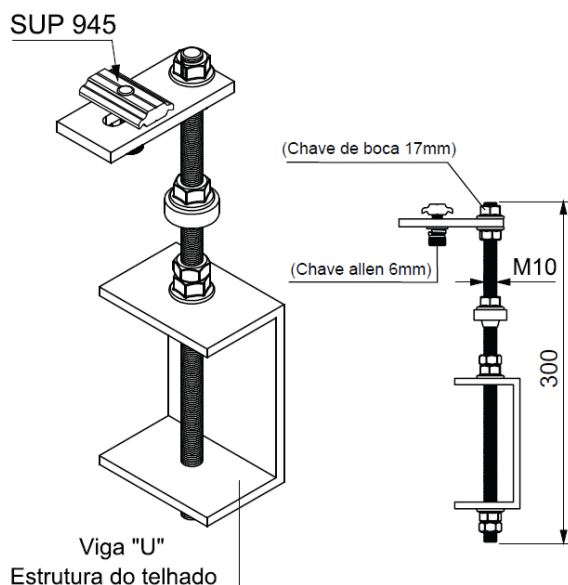


4. Unir os perfis ES 099 com o SUP 968 _ na parte superior e inferior do perfil.

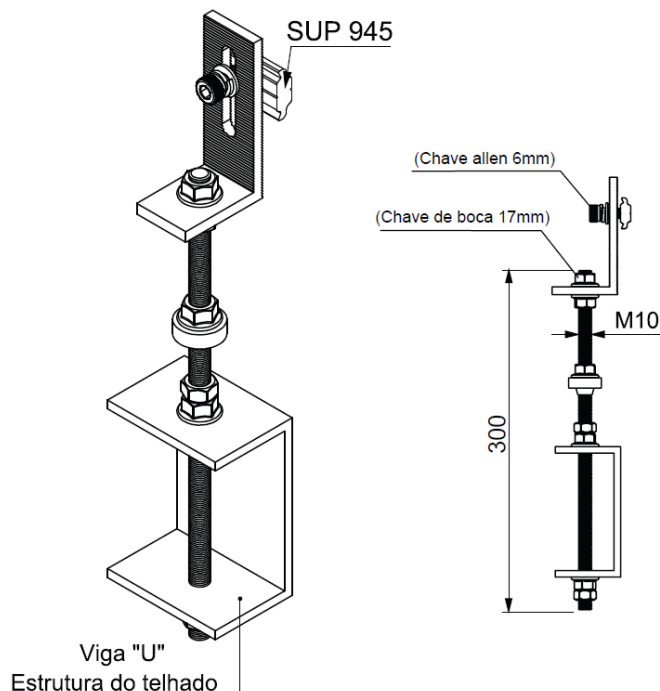


ENERGIA SOLAR

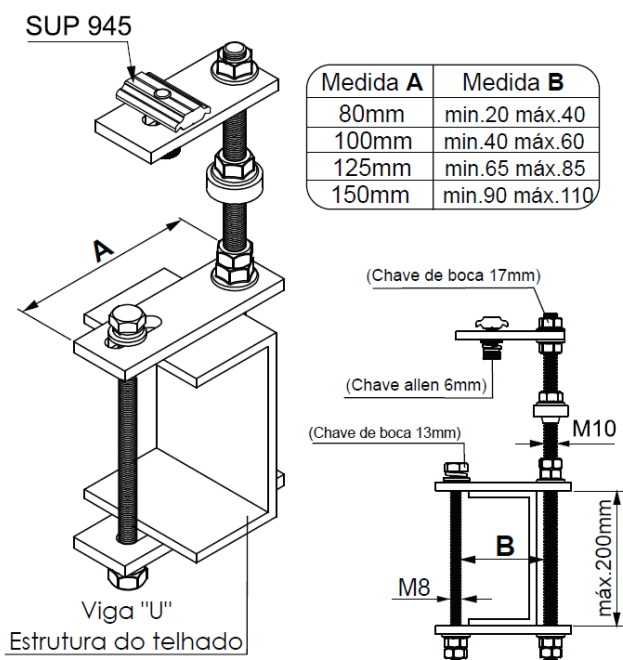
SUP 957 SUPORTE DE FIXAÇÃO DO PAINEL NA ESTRUTURA DO TELHADO - VIGA "U" PARA TELHADO FIBROCIMENTO - VIGA AÇO



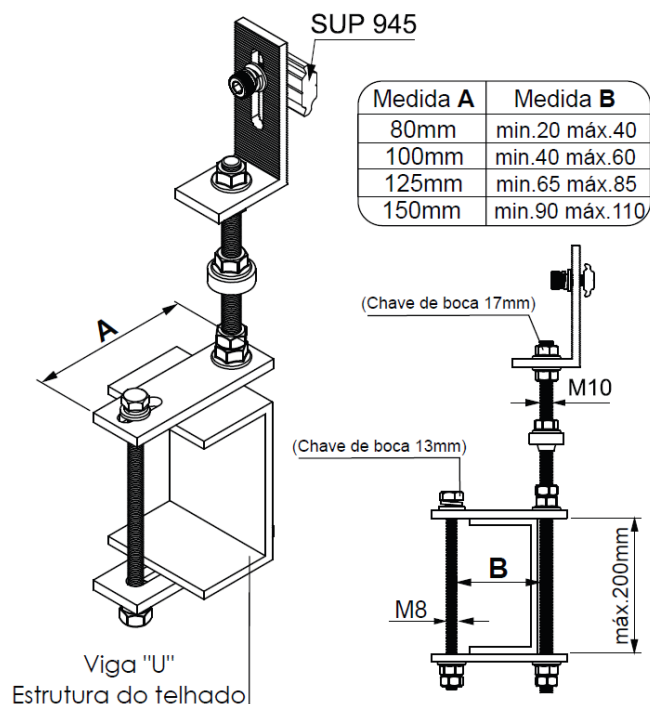
SUP 958 SUPORTE DE FIXAÇÃO DO PAINEL NA ESTRUTURA DO TELHADO - VIGA "U" PARA TELHADO FIBROCIMENTO - VIGA AÇO



SUP 959 SUPORTE DE FIXAÇÃO DO PAINEL PARA TELHADO FIBROCIMENTO - CAIBRO MADEIRA / VIGA AÇO



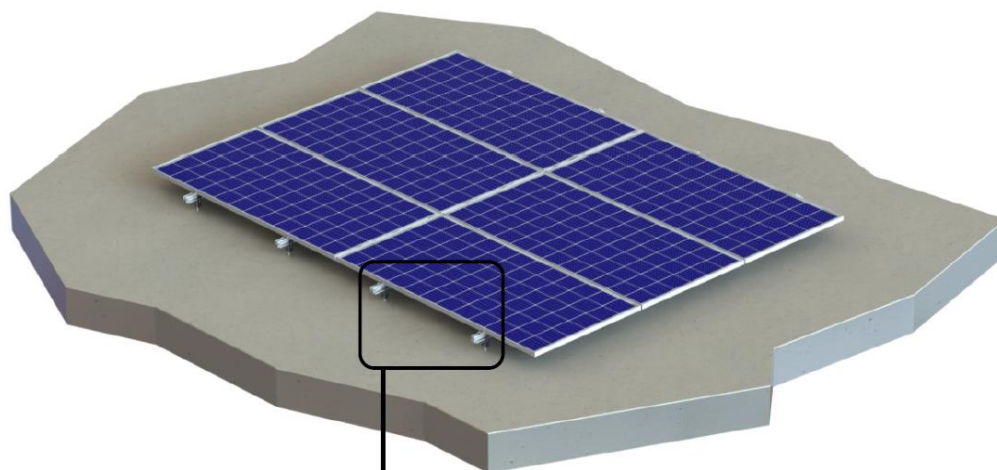
SUP 960 SUPORTE DE FIXAÇÃO DO PAINEL PARA TELHADO FIBROCIMENTO - CAIBRO MADEIRA / VIGA AÇO



ENERGIA SOLAR

ESTRUTURA PARA LAJE

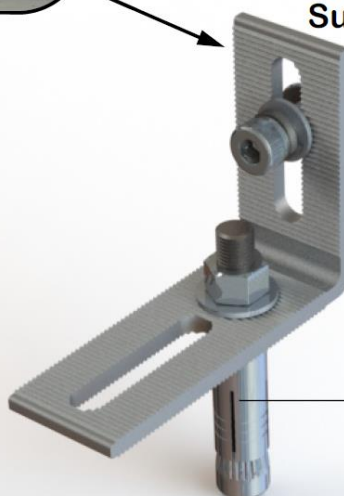
Sistema de Instalação das Placas Fotovoltaicas
SUP 961 para Laje



SUP 945
Fixador



SUP 961
Suporte

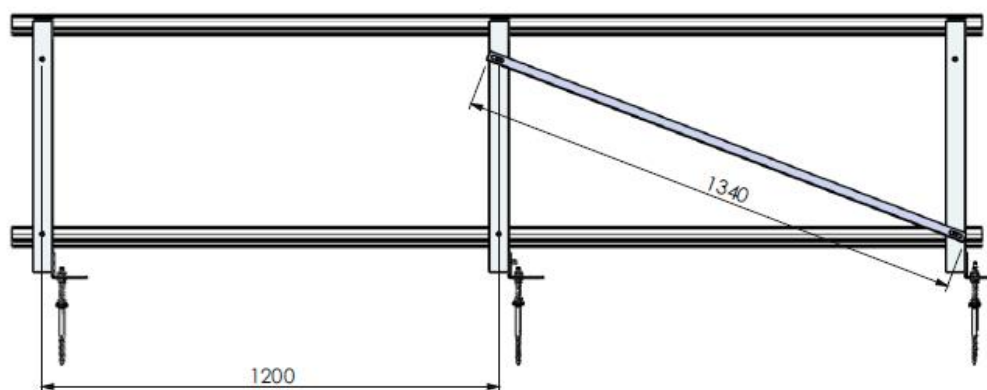
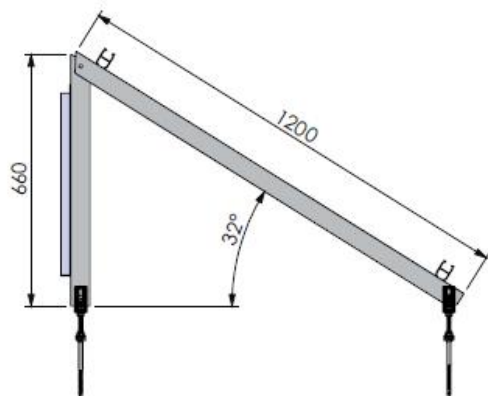


CHU 794
Chumbador Parabolt
INOX 304

Obs: CHU 794 vendido separadamente

ENERGIA SOLAR

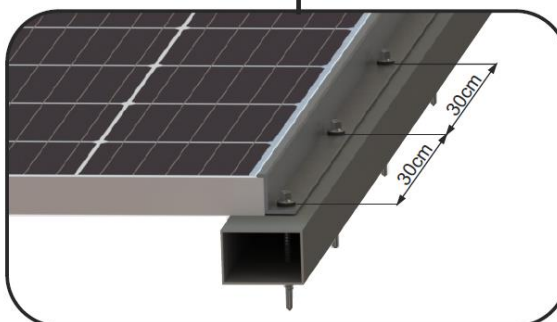
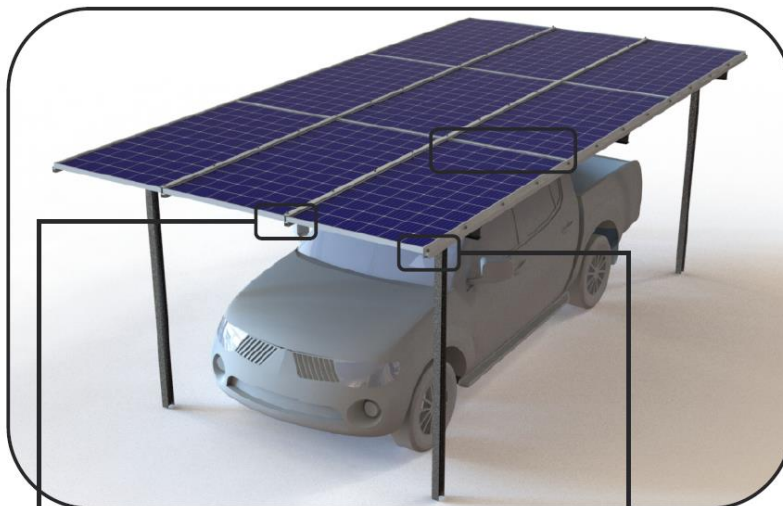
Suporte Para Placas de Aquecimento Solar



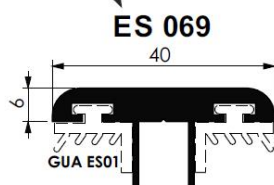
ENERGIA SOLAR

Estrutura Cobertura CARPORT

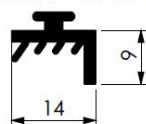
Sistema de instalação das placas Fotovoltaicas para Cobertura CARPORT



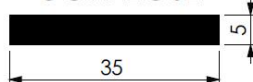
Parafuso Atobrocante
NÃO FORNECIDO



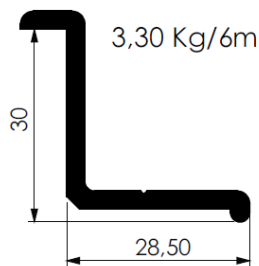
GUA ES01



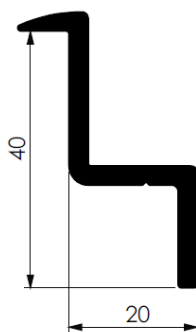
GUA ES02



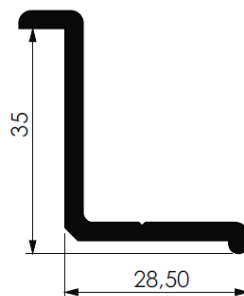
BAR 930



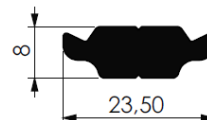
BAR 934



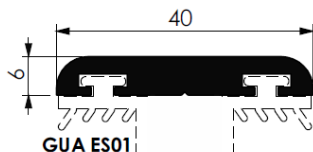
BAR 935



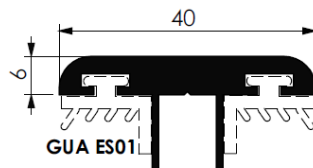
BAR 936



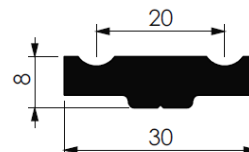
BAR 937



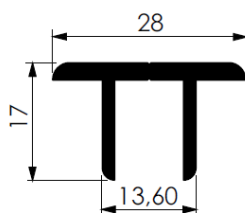
ES 069



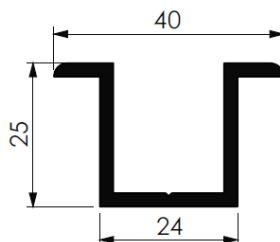
BAR 939



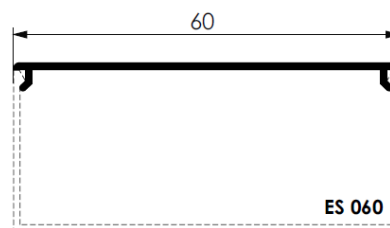
ES 063



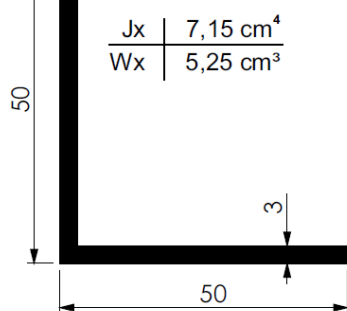
ES 065



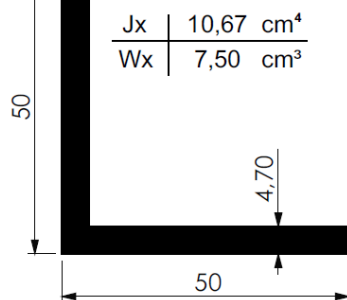
ES 061



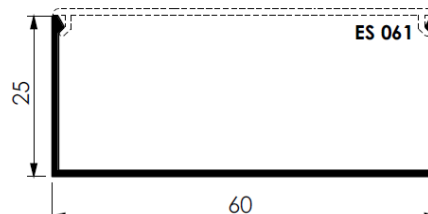
VT 5050



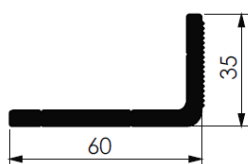
CT 033



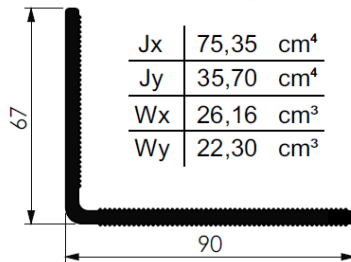
ES 060



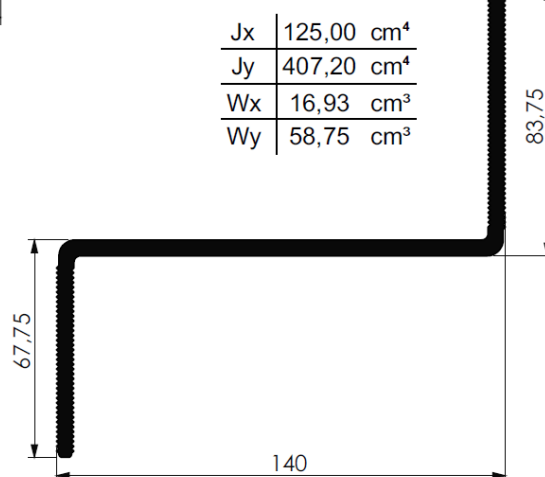
BAR 940



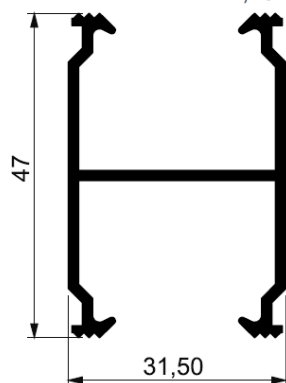
BAR 942



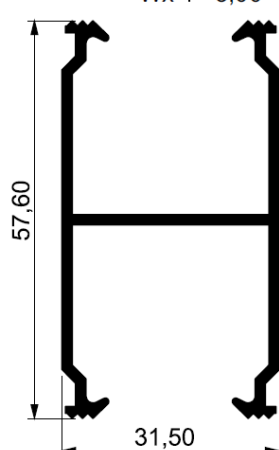
BAR 941



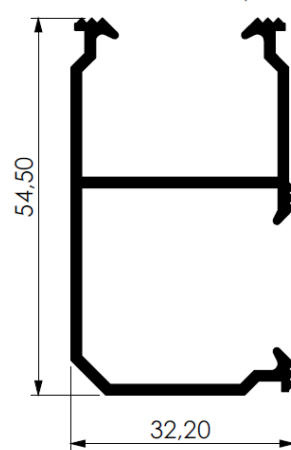
ES 047 $\frac{Jx}{Wx} \left| \begin{array}{l} 4,10 \text{ cm}^4 \\ 1,75 \text{ cm}^3 \end{array} \right.$



ES 066 $\frac{Jx}{Wx} \left| \begin{array}{l} 7,10 \text{ cm}^4 \\ 3,00 \text{ cm}^3 \end{array} \right.$

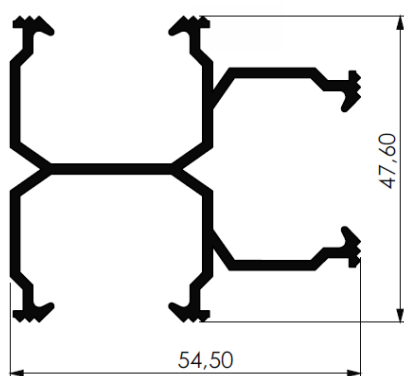


ES 068 $\frac{Jx}{Wx} \left| \begin{array}{l} 7,40 \text{ cm}^4 \\ 2,80 \text{ cm}^3 \end{array} \right.$

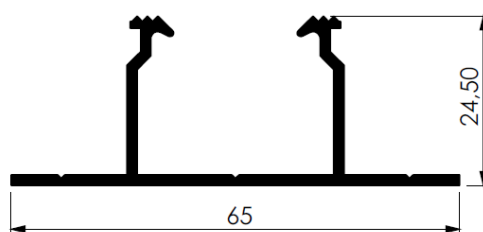


ES 062

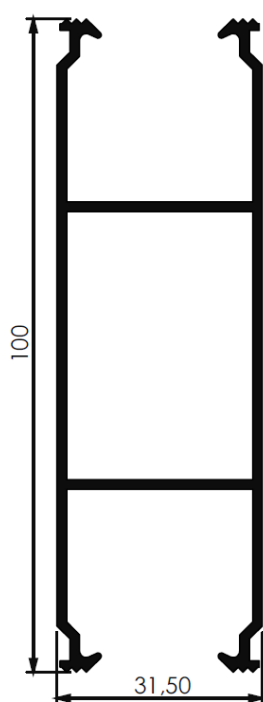
$\frac{Jx}{Wx} \left| \begin{array}{l} 6,00 \text{ cm}^4 \\ 2,50 \text{ cm}^3 \end{array} \right.$
 $\frac{Jy}{Wy} \left| \begin{array}{l} 9,30 \text{ cm}^4 \\ 3,90 \text{ cm}^3 \end{array} \right.$



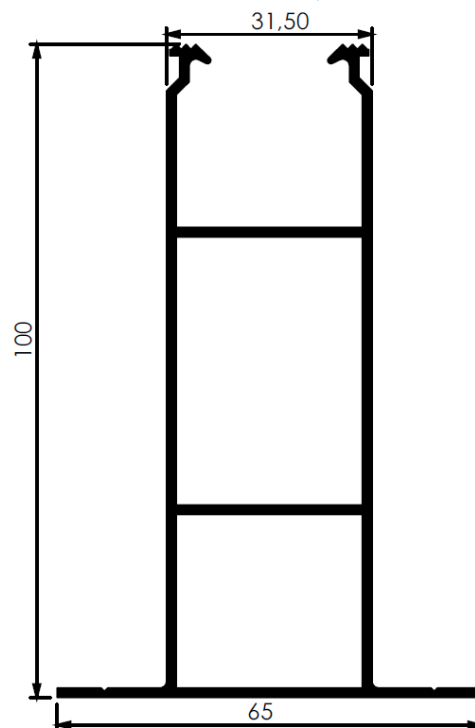
ES 064 $\frac{Jx}{Wx} \left| \begin{array}{l} 1,30 \text{ cm}^4 \\ 1,80 \text{ cm}^3 \end{array} \right.$



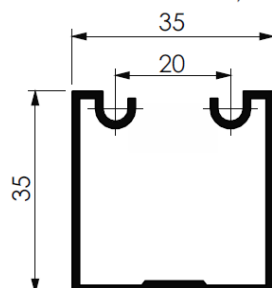
ES 099 $\frac{Jx}{Wx} \left| \begin{array}{l} 36,35 \text{ cm}^4 \\ 7,27 \text{ cm}^3 \end{array} \right.$



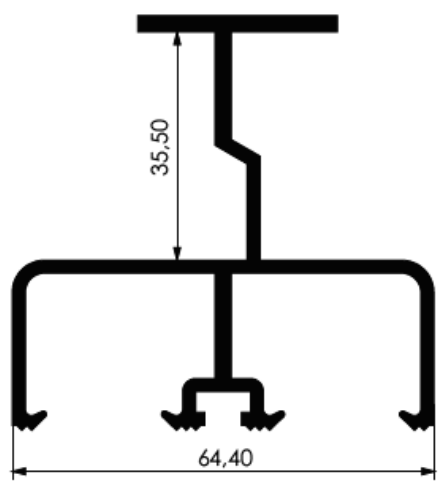
ES 100 $\frac{Jx}{Wx} \left| \begin{array}{l} 52,24 \text{ cm}^4 \\ 12,34 \text{ cm}^3 \end{array} \right.$



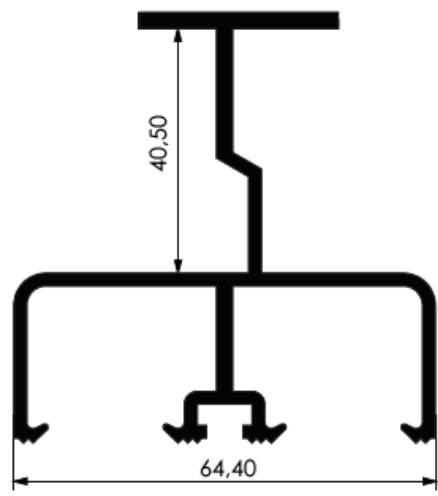
VT 1041 $\frac{Jx}{Wx} \left| \begin{array}{l} 3,20 \text{ cm}^4 \\ 1,80 \text{ cm}^3 \end{array} \right.$



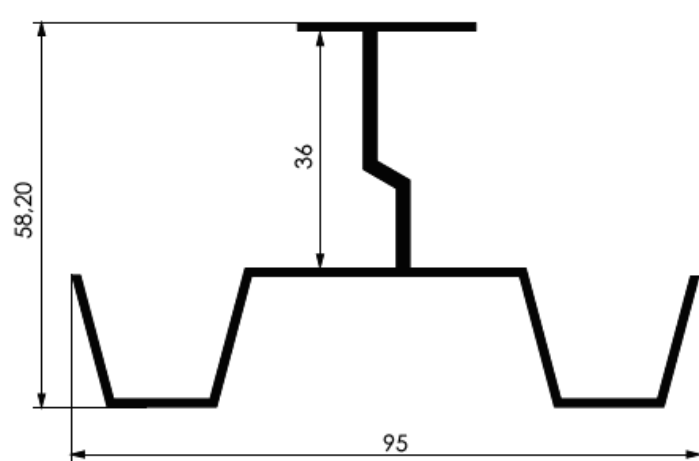
ES 135 $\frac{J_x}{W_x} \begin{array}{|l} 20,88 \text{ cm}^4 \\ 4,60 \text{ cm}^3 \end{array}$



ES 140 $\frac{J_x}{W_x} \begin{array}{|l} 25,20 \text{ cm}^4 \\ 4,60 \text{ cm}^3 \end{array}$



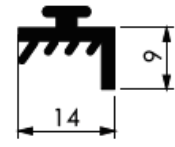
ES 145 $\frac{J_y}{W_x} \begin{array}{|l} 17,45 \text{ cm}^4 \\ 3,70 \text{ cm}^3 \end{array}$



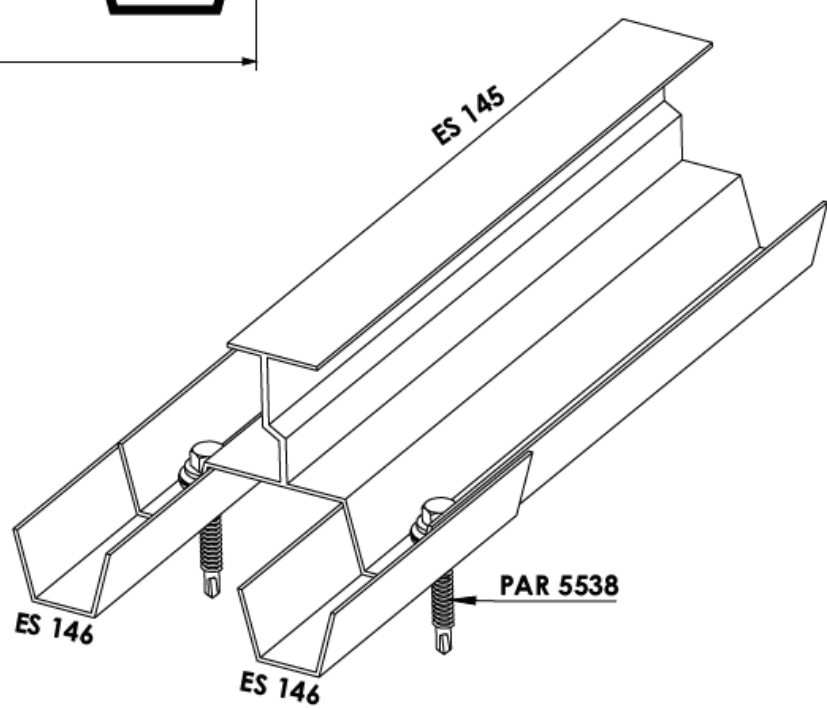
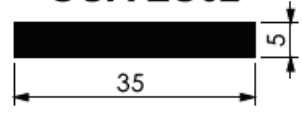
ES 146



GUA ES01



GUA ES02



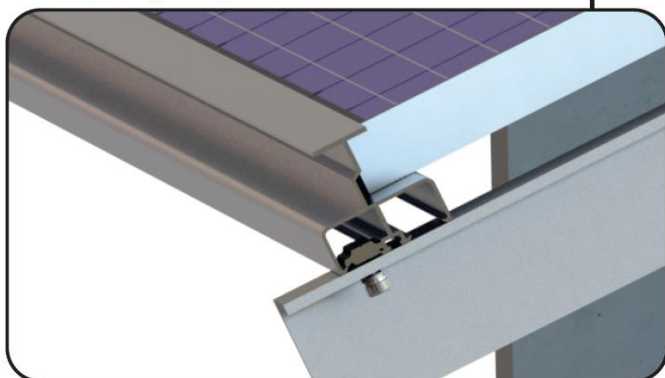
ESTRUTURA DE SOLO - PERFIS ES135 | ES140

ESTRUTURA DE SOLO | SUP 976

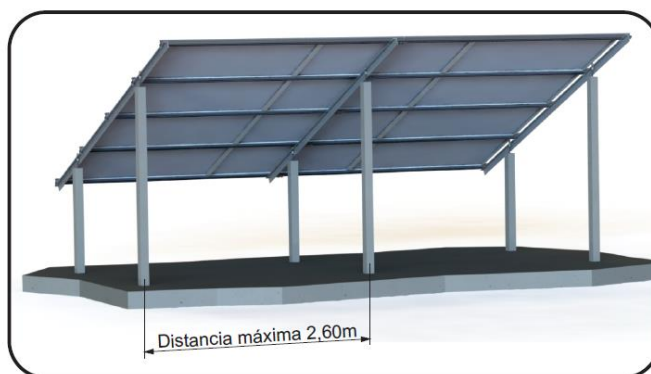
Sistema de Instalação dos módulos Fotovoltaicos
SUP 976 com perfil **ES 135** e **ES 140**



ES 135/ES 140 fixado no **SUP 976**, através do **SUP 945** na extremidade inferior, conforme figura abaixo:

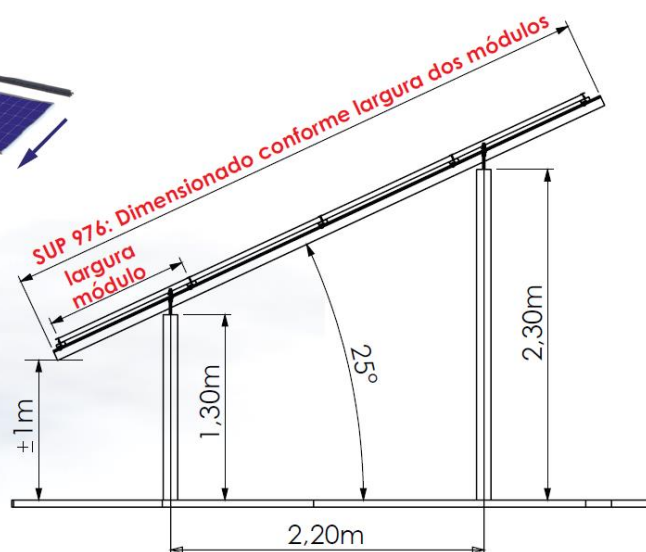
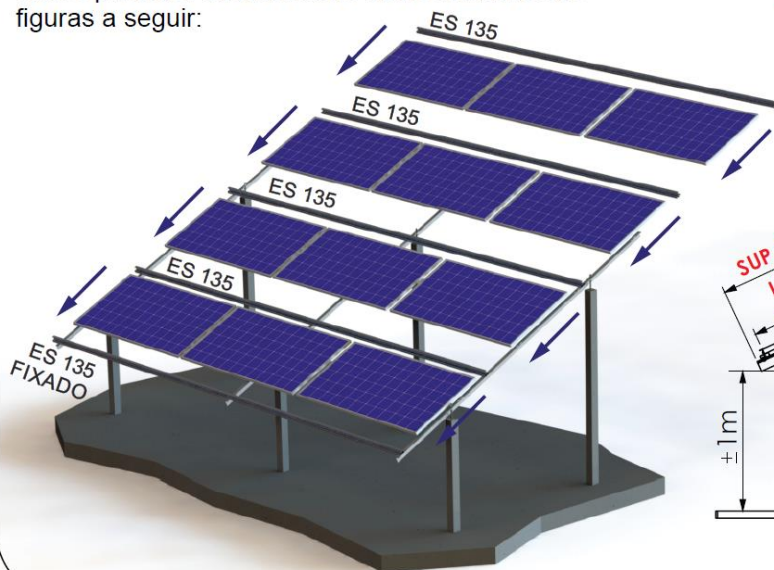


Os perfis **ES 135 / ES 140** são fixados ao longo do **SUP 976**, utilizando o **SUP 945** nos bilongos estampados.



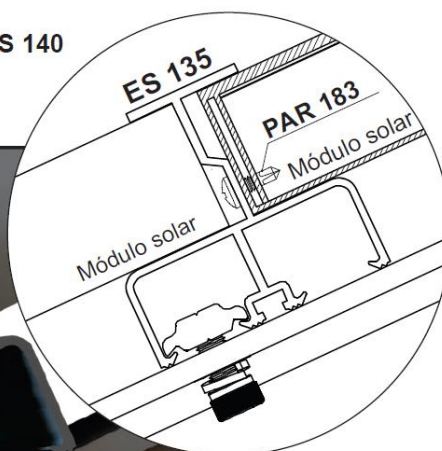
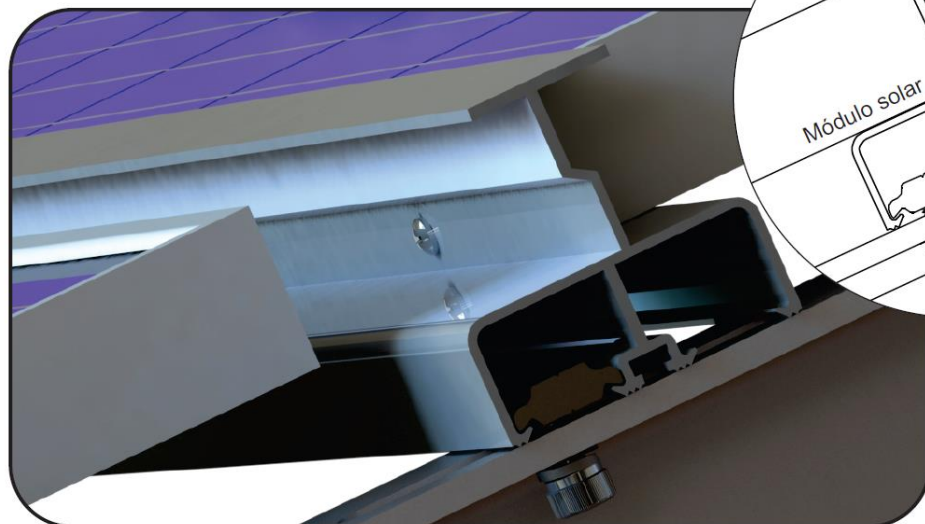
Após os perfis **ES 135 / ES140** serem fixados no **SUP 976**, encaixar os módulos entre eles e fazer o aterramento com o parafuso autobrocante como indicado nas figuras a seguir:

O dimensionamento entre os bilongos no **SUP 976** variam de acordo com a largura do módulo indicada pelo cliente

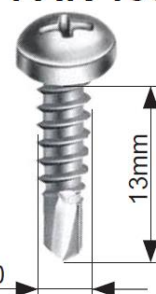


ESTRUTURA DE SOLO - PERFIS ES135 | ES140

Para fazer o **aterramento**, fixar os módulos no perfil **ES 135 / ES 140** com o **PAR 183** conforme desenho:

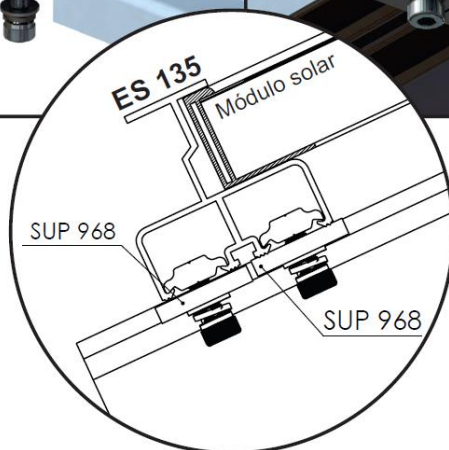
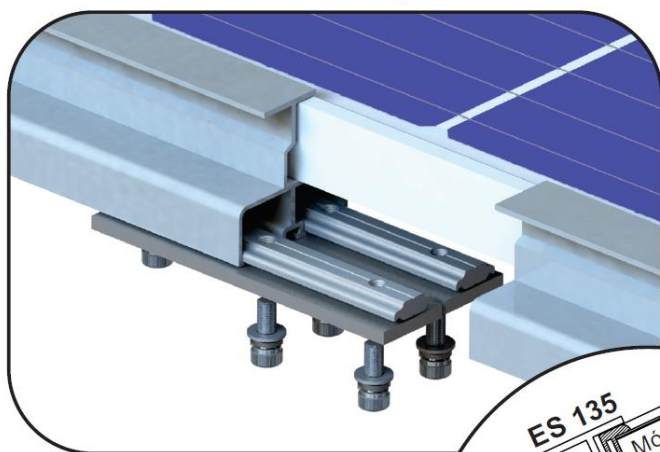


PAR 183



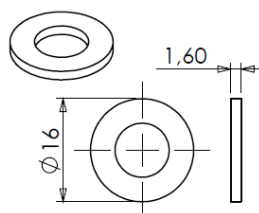
Parafuso C.P 4,20 x 13mm Aço Inox

Os perfis **ES 135/ES 140** são unidos utilizando dois **SUP 968**, conforme figuras abaixo:



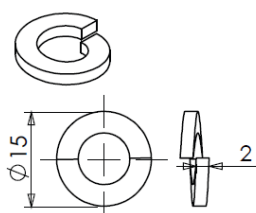
ARR 825

ARRUELA LISA
M8 INOX 304



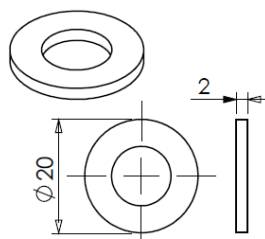
ARR 870

ARRUELA DE PRESSÃO
M8 INOX 304



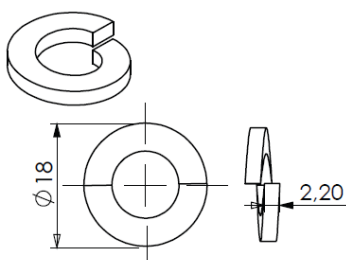
ARR 1025

ARRUELA LISA
M10 INOX 304



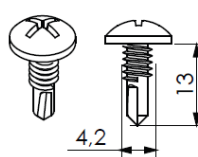
ARR 1070

ARRUELA de pressão
M10 INOX 304



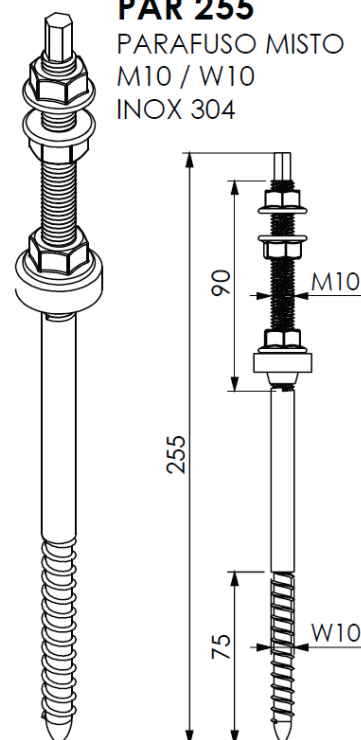
PAR 183

Parafuso Phillips
Auto Brocante
4,2 x 13 INOX 304



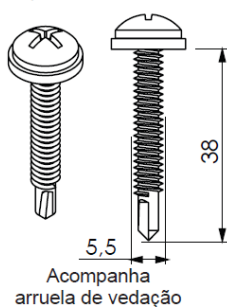
PAR 255

PARAFUSO MISTO
M10 / W10
INOX 304



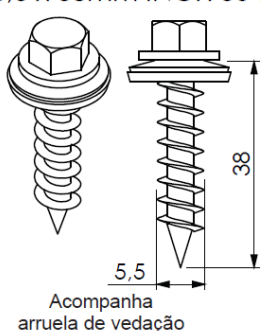
PAR 181

Parafuso Phillips
Auto Brocante
5,5 x 38 INOX 304



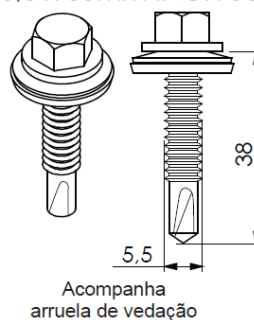
PAR 143

Parafuso Sextavado
Rosca Soberba
5,5 x 38mm INOX 304



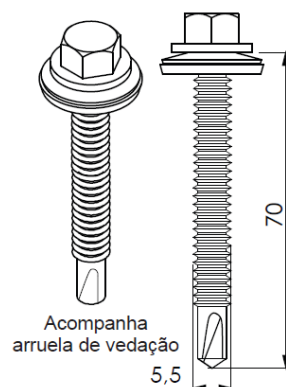
PAR 5538

Parafuso Sextavado
Auto Brocante
5,5 x 38mm INOX 304



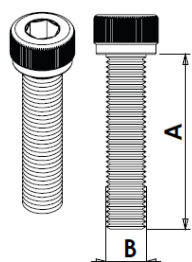
PAR 070

Parafuso Sextavado
Auto Brocante
5,5 x 70mm INOX 304



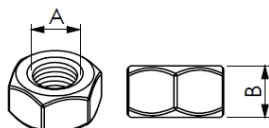
PAR INOX 304

Sextavado interno



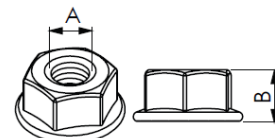
Porca Simples

INOX 304



Porca Flangeada

INOX 304

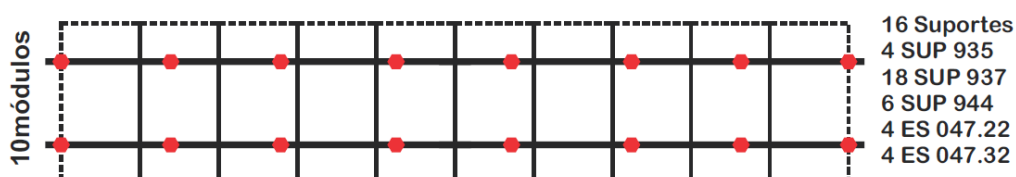
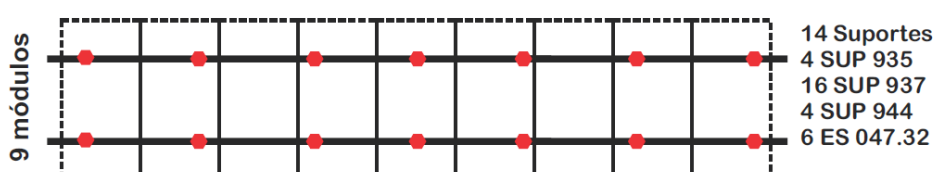
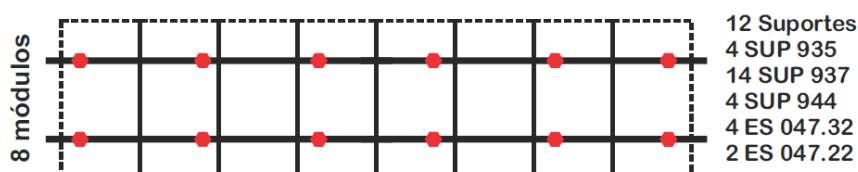
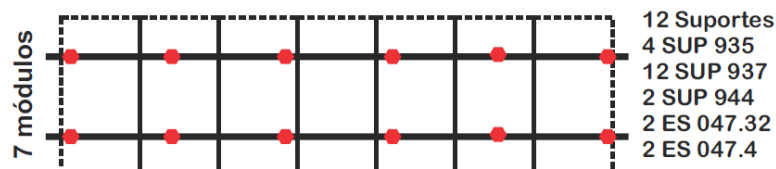
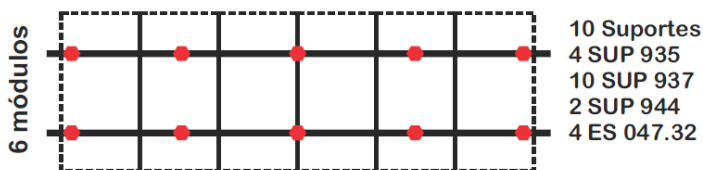
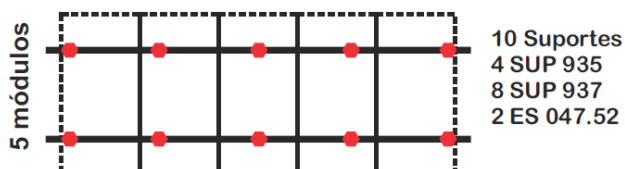
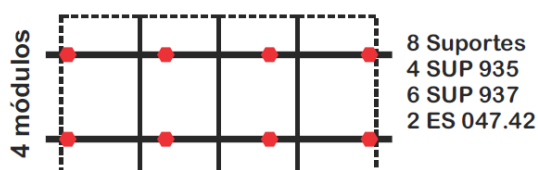
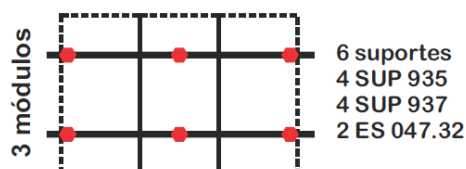
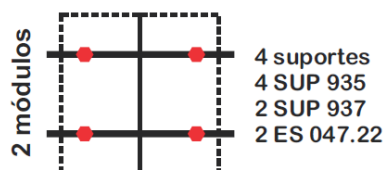


CÓDIGO	A	B
PAR 820	20	M8
PAR 835	35	M8
PAR 840	40	M8
PAR 850	50	M8
PAR 865	35	M8
PAR 1040	140	M10

Código	A	B
POR M8	M8	6,50mm
POR M10	M10	8mm
POR M12	M12	10mm
POR 580I	5/8"w	14,20mm

Código	A	B
POR M8F	M8	9,40mm
POR M10F	M10	11,40mm
POR M12F	M12	13,80mm
POR 580IF	5/8"w	17,20mm

ENERGIA SOLAR



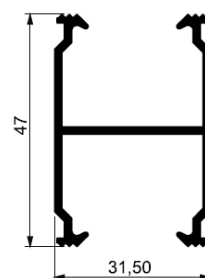
Inclinação da Estrutura: 15°

Vento Máximo: 160Km/h

Distância Máxima entre os suportes: 1500mm

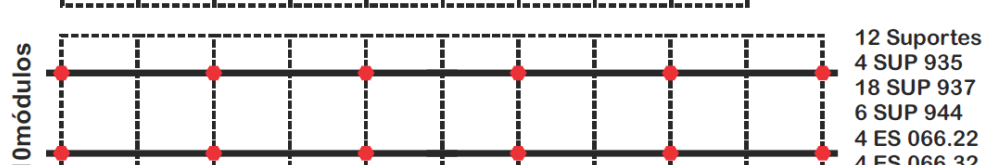
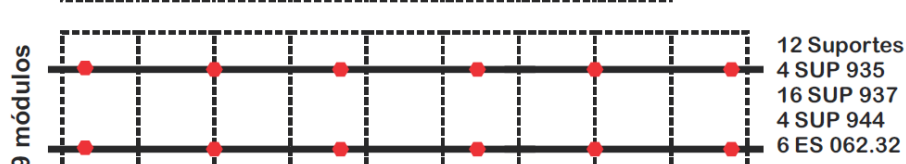
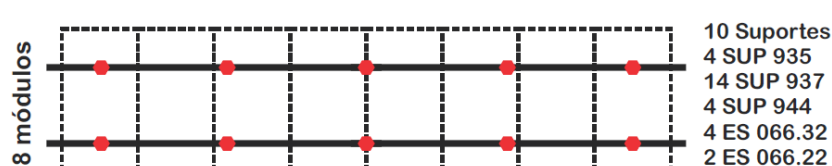
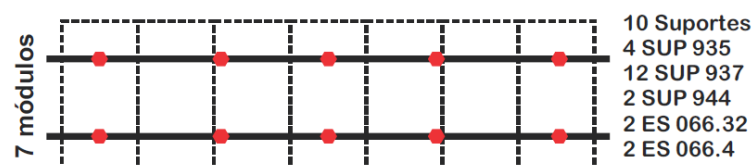
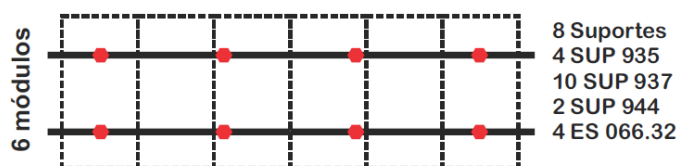
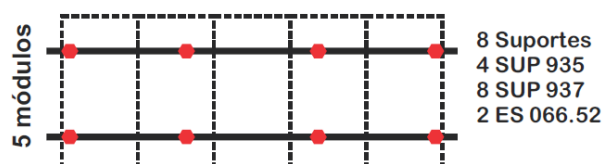
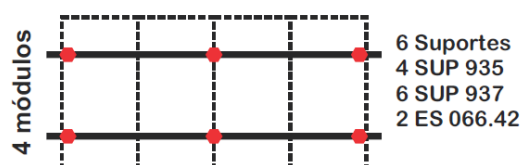
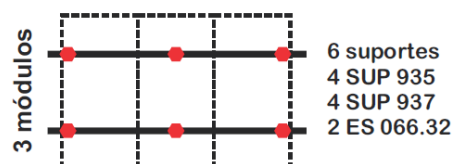
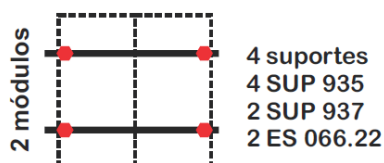
Trilho - ES 047

Jx = 4,10 cm⁴



Posição do Suporte

ENERGIA SOLAR



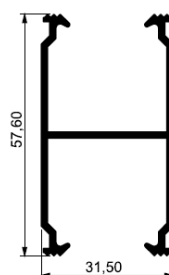
Inclinação da Estrutura: 15°

Vento Máximo: 160Km/h

Distância Máxima entre os suportes: 2000mm

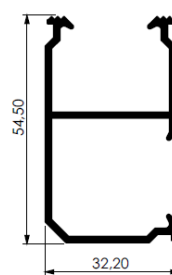
Trilho - ES 066

Jx = 7,10 cm⁴



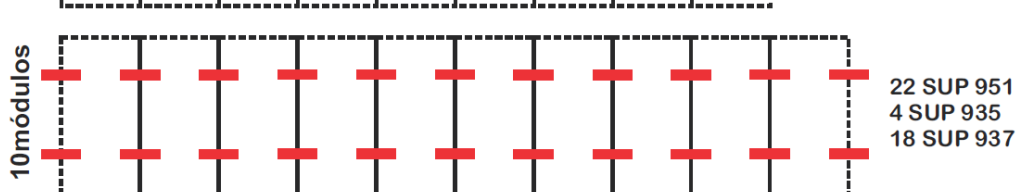
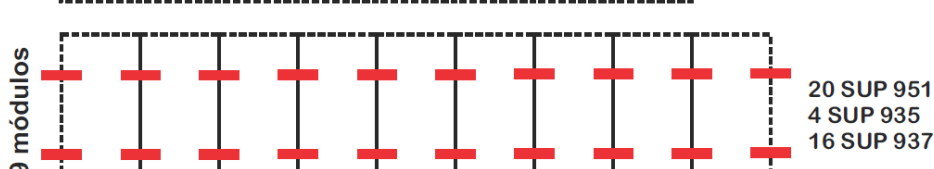
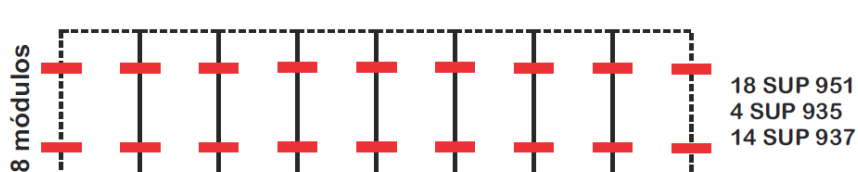
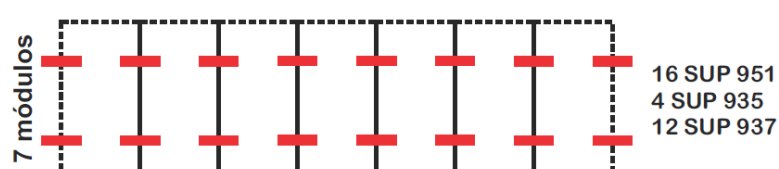
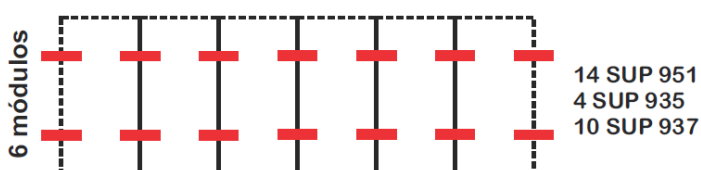
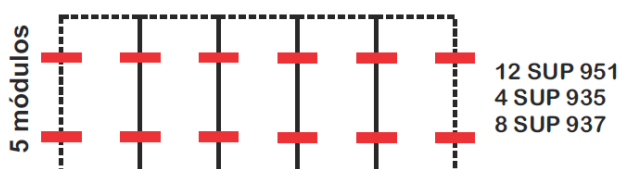
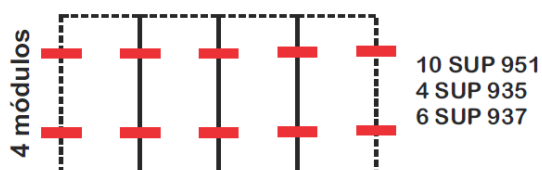
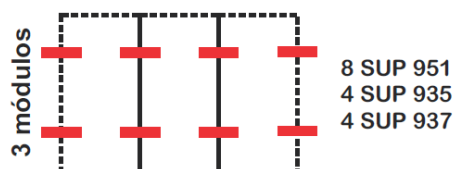
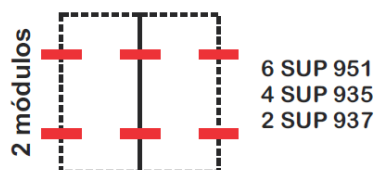
Trilho - ES 068

Jx = 7,40 cm⁴

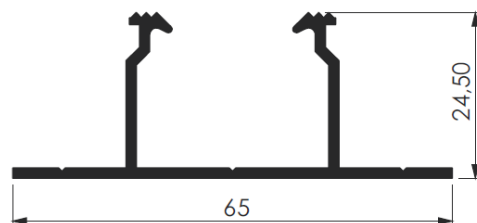


Posição do Suporte

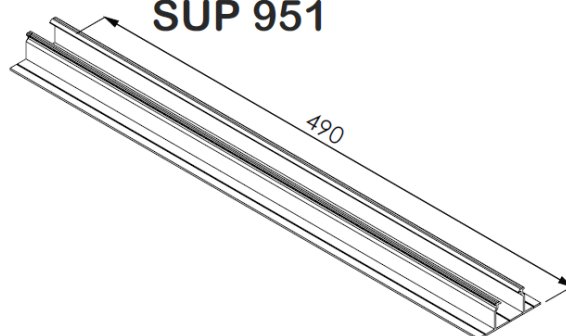
ENERGIA SOLAR



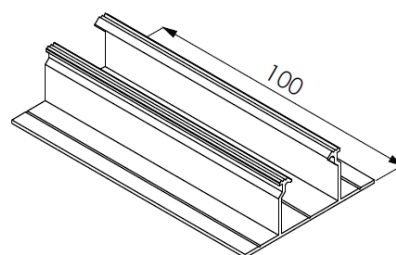
SUP 951: perfil ES 064
Jx = 1,30 cm⁴



SUP 951

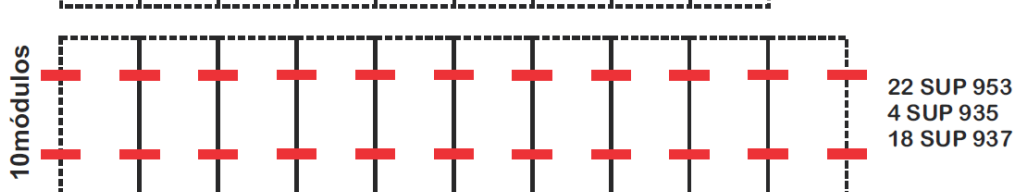
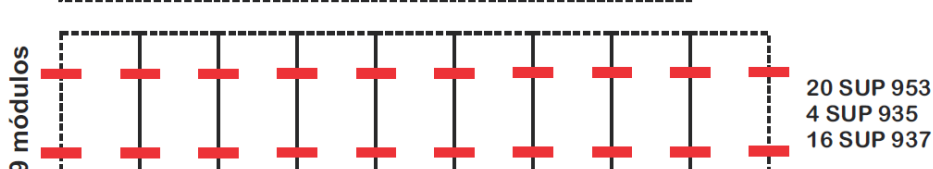
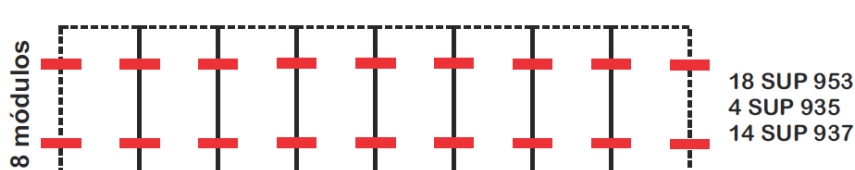
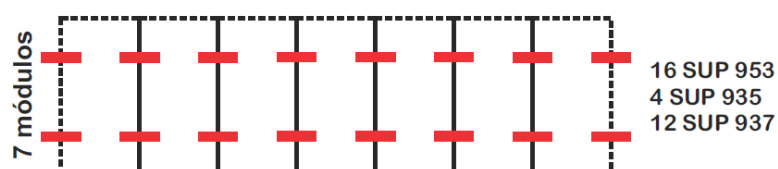
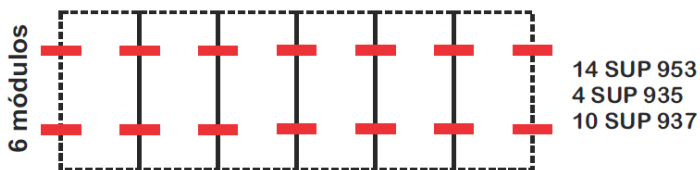
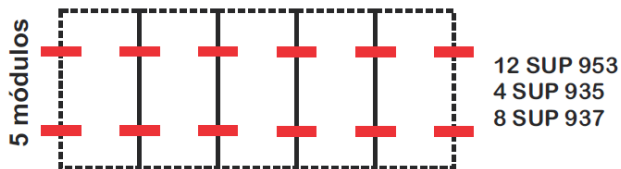
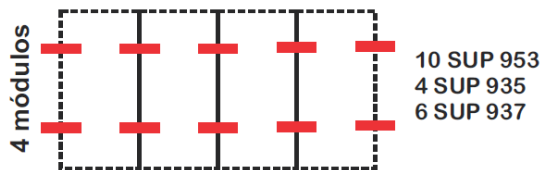
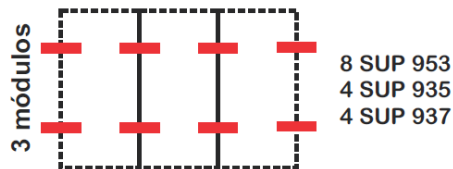
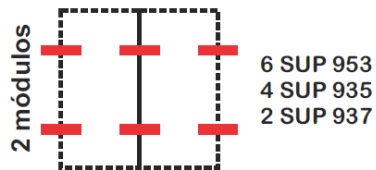


SUP 952



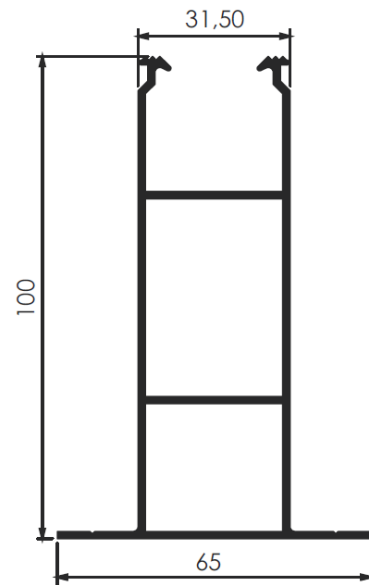
 Posição do
SUP 951

ENERGIA SOLAR



Posição do
SUP 953

SUP 953: perfil ES 100
 $J_x = 52,24 \text{ cm}^4$



SUP 953

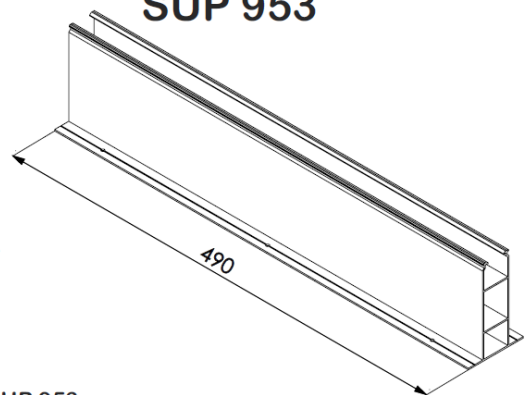


Gráfico 01

ESPAÇAMENTO DOS SUPORTES - TRILHO ES 062

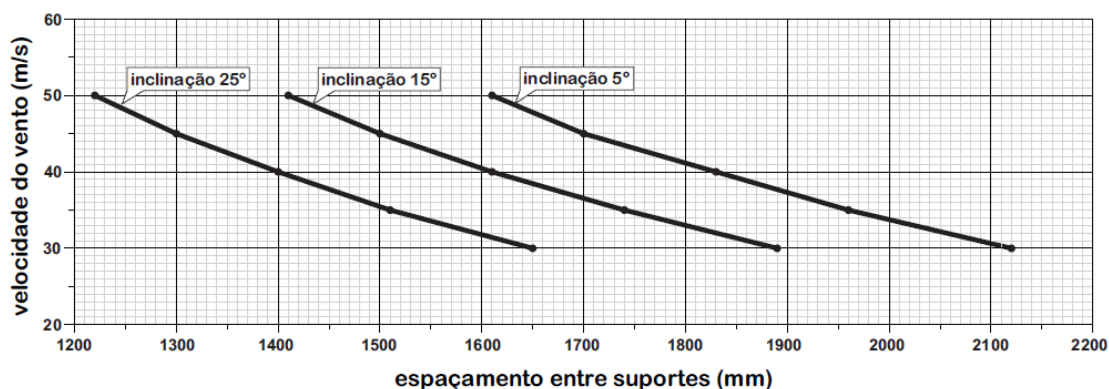
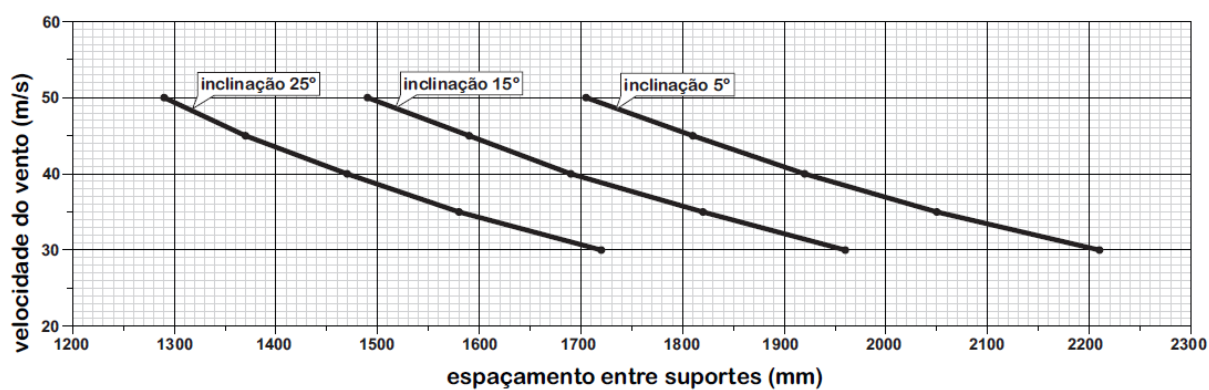


Gráfico 02

ESPAÇAMENTO DOS SUPORTES - TRILHO ES 066 / ES 068



ENERGIA SOLAR - MICRO INVERSORES

Micro Inversor DEYE

1300W(4MPPT)
mono/bifásico 220V



4 módulos 390W

Micro Inversor NEP

550W(2MPPT)
mono/bifásico 220V

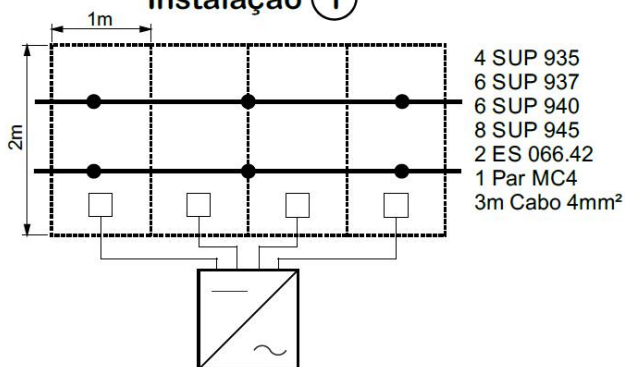


2 módulos 330W

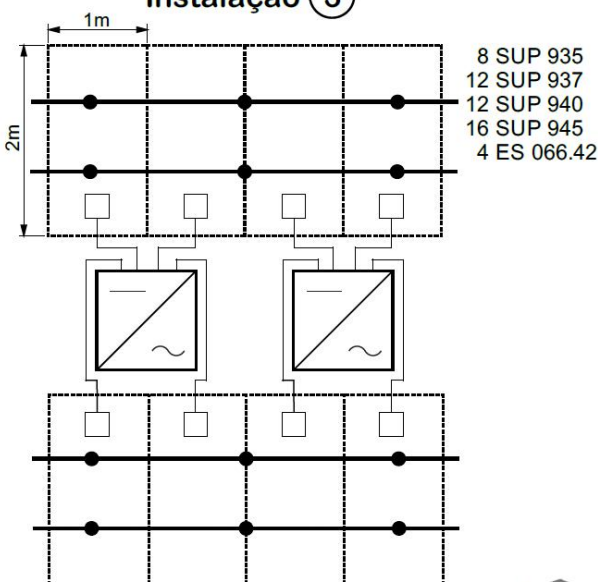
Tampa Final

Conector Fêmea

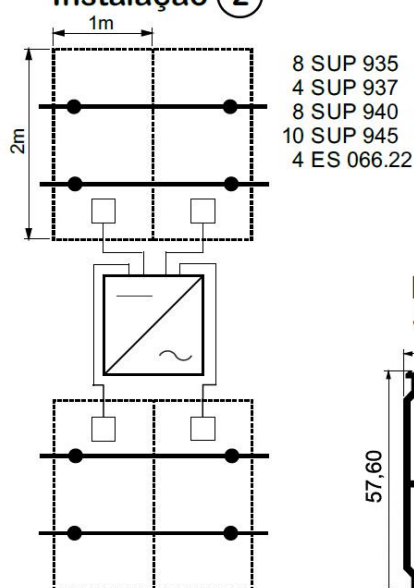
Instalação ①



Instalação ③

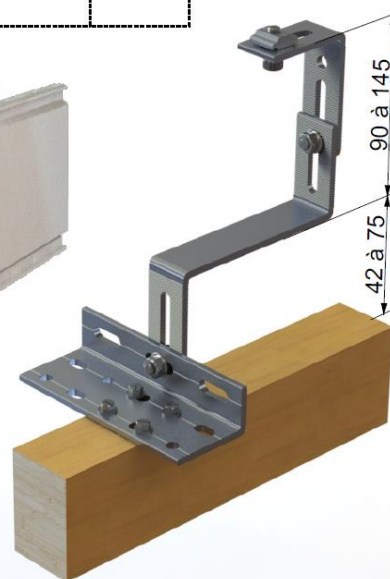
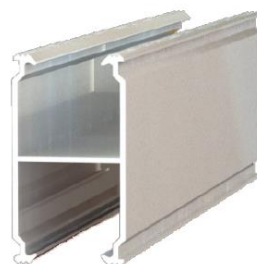
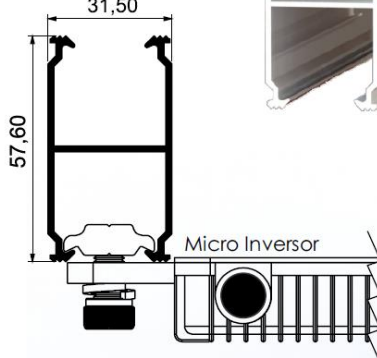


Instalação ②



ES 066

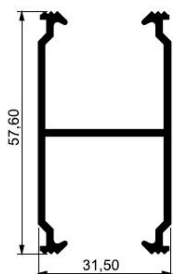
Jx: 7,10 cm⁴
31,50



MICRO INVERSORES

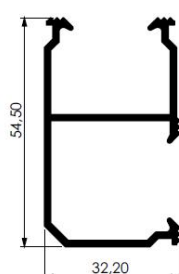
ES 066

Jx = 7,10 cm⁴

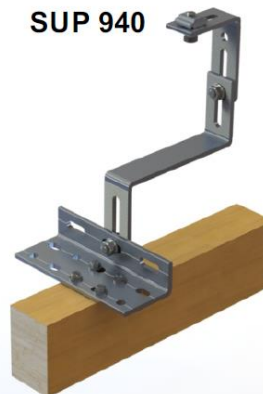


ES 068

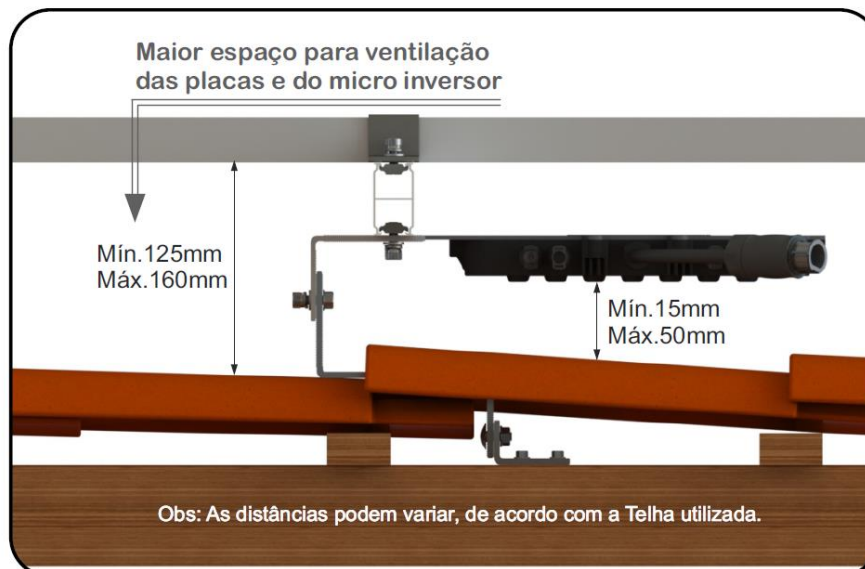
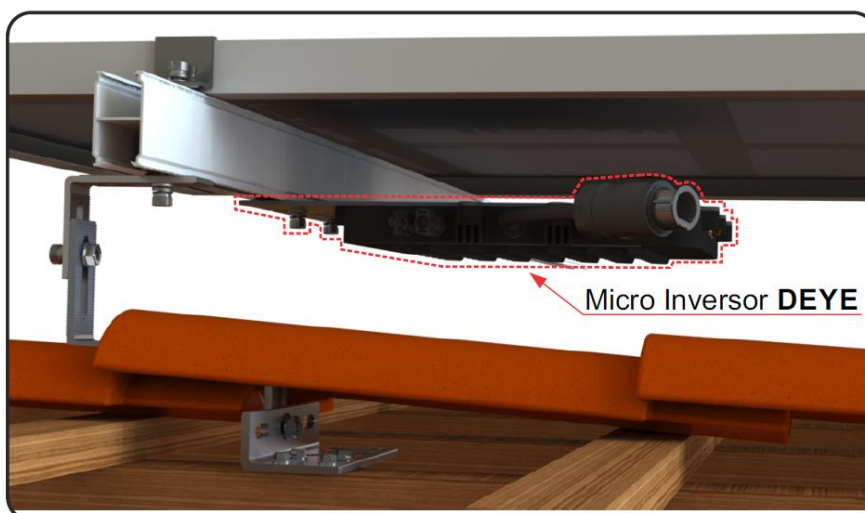
Jx = 7,40 cm⁴



SUP 940



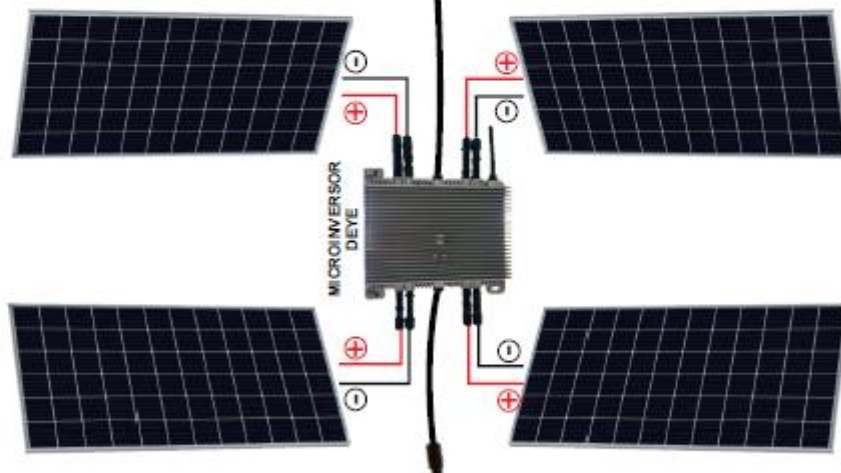
- 1 - Perfis com maior resistência;
- 2 - Possibilita maior espaçamento, economizando suportes; (Distância máxima 2m)
- 3 - Economia de mão de obra para instalação;
- 4 - Maior espaço de ventilação da placa e do Micro Inversor; (por baixo)



EXEMPLO DE PROJETO COM MICROINVERSORES DEYE

MÁXIMOS POR CIRCUITO:
 -SUN 1300G → 4 UNIDADES
 -SUN 1600G → 3 UNIDADES
 -SUN 2000G → 2 UNIDADES

PLUGUE FÊMEA
 ÚLTIMO MICROINVERSOR
 DO CIRCUITO
 (OU TAMPAR COM END-CAP)



CABO CA (A INSTALAR)
 SEÇÃO MÍNIMA #4mm²
 COMPREENDIDO POR:
 - CONDUTOR FASE
 - CONDUTOR FASE OU NEUTRO
 - CONDUTOR TERRA

CONECTAR AO QUADRO
 COM DISJUNTOR APROPRIADO
 (MÁXIMO 25A)

OB8: SE TENSÃO FASE-FASE = 220V
 CIRCUITO BIFÁSICO (FF)

OB9: SE TENSÃO FASE-FASE = 380V
 CIRCUITO MONOFÁSICO (FN)

MÁXIMO 25A
 (MONO OU BI)

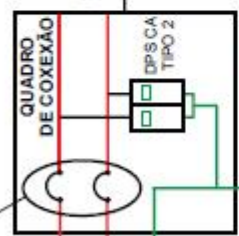
MÍNIMO #4mm²

FASE

FASE/NEUTRO

TERRA

PLUGUE MACHO
 PLUGAR NO PRÓXIMO
 MICROINVERSOR DA SÉRIE
 (OU FIM DA SÉRIE; PLUGAR
 NO CONECTOR FÊMEA)



OB8: CASO O QUADRO DE CONEXÃO
 JÁ POSSUA UM DPS APROPRIADO,
 DISPENSA-SE A APLICAÇÃO
 DE UM NOVO DISPOSITIVO.

VAI PARA B.E.P.

VAI PARA
 QUADRO
 PRINCIPAL
 OU
 PARA MEDIÇÃO
 DIRETA

**QUADRO
 PRINCIPAL
 (SE EXISTENTE)**

Kwh

REDE BT
 DA CONCESSIONÁRIA



Alumifi
 Solar
 Sistemas Fotovoltaicos

STRING DEYE MONO/BIFÁSICOS 220V

Características	SUN-3K-G	SUN-5K-G	SUN-8K-G
Potência máxima CC entrada [kWp]	3,6	6,5	9,6
Tensão máxima CC de entrada [Voc]	500	500	500
Tensão mínima CC de entrada [Voc]	120	120	120
Faixa do MPPT [Voc]	100~500	100~500	100~500
Corrente máxima de entrada CC [A]	12	12+12	11+22
Quantidade de MPPTs	1	2	2
Número de strings/MPPT	1	1	1+2
Potência de saída CA nominal [kW]	3	5	8
Potência de saída CA máxima [kW]	3,3	5,5	8,8
Corrente máxima de saída CA [A]	15	25	40
Peso (kg)	6	11	11
Registro no INMETRO	007490/2019	007492/2019	001452/2020

STRING DEYE TRIFÁSICOS 380V



Características	SUN-12K-G03	SUN-15K-G03	SUN-20K-G02	SUN-25K-G02	SUN-30K-G
Potência máxima CC entrada [kWp]	15,6	18	24	32,5	36
Tensão máxima CC de entrada [Voc]	1000	1000	1000	1000	1000
Tensão mínima CC de entrada [Vcc]	250	250	250	250	250
Faixa do MPPT [Voc]	200~800	200~800	200~800	200~800	200~800
Corrente máxima de entrada CC [A]	11+22	11+22	22+22	33+33	33+33
Quantidade de MPPTs	2	2	2	2	2
Número de strings/MPPT	1+2	1+2	2	3	3
Potência de saída CA nominal [kW]	12	15	20	25	30
Potência de saída CA máxima [kW]	13,2	16,5	22	27,5	33
Corrente máxima de saída CA [A]	20	25	34	42	50
Peso (kg)	17	17	29	29	54
Registro no INMETRO	005461/2020	005461/2020	005461/2020	005461/2020	005461/2020

Características	SUN-33K-G	SUN-35K-G	SUN-40K-G	SUN-50K-G	SUN-60K-G	SUN-75K-G
Potência máxima CC entrada [kWp]	36	45,5	52	65	78	97,5
Tensão máxima CC de entrada [Voc]	1000	1000	1000	1000	1000	1000
Tensão mínima CC de entrada [Vcc]	250	250	250	250	250	250
Faixa do MPPT [Voc]	200~800	200~800	200~800	200~800	200~800	200~800
Corrente máxima de entrada CC [A]	33+33	33+33+33	33+33+33	33+33+33+33	33+33+33+33	44+44+44+44
Quantidade de MPPTs	2	3	3	4	4	4
Número de strings/MPPT	3	3	3	3	3	4
Potência de saída CA nominal [kW]	33	35	40	50	60	75
Potência de saída CA máxima [kW]	36	38,5	44	55	66	82,5
Corrente máxima de saída CA [A]	55	59	67	84	100	125
Peso (kg)	54	54	54	54	60	60
Registro no INMETRO	005461/2020	005461/2020	005461/2020	005461/2020	005461/2020	005461/2020

MICROINVERSORES DEYE



Características	SUN600G-127V	SUN600G-220V	SUN1300G	SUN1600G	SUN2000G
Quantidade de módulos e MPPTs	2	2	4	4	4
Potência máxima CC entrada [kWp]	2 x 350Wp	2 x 400Wp	4 x 400Wp	4 x 600Wp	4 x 600Wp
Tensão máxima CC de entrada [Voc]	60	60	60	60	60
Tensão mínima CC de entrada [Voc]	20	20	20	20	20
Faixa do MPPT [Voc]	25~55	25~55	25~55	25~55	25~55
Corrente máxima de entrada CC [A]	10,4	10,4	10,4	12,5	12,5
Corrente de curto-circuito CC [A]	13	13	13	16	16
Potência de saída CA máxima [W]	500	600	1300	1600	2000
Corrente de saída CA máxima [V]	4	2,7	5,91	7,3	9,1
Tensão nominal da rede CA [V]	127	220	220	220	220
Frequência nominal da rede CA [Hz]	60	60	60	60	60
Máximo de unidades por circuito	5	8	4	3	2
Peso (kg)	2,4	2,4	6,3	6,3	6,3
Registro no INMETRO	004648/2020	007493/2019	006585/2019	006291/2020	006290/2020

	INVERSOR	STRING BOX	MÓDULOS*	INMETRO
DEYE MICROINVERSORES	SUN600G (127V)	–	1	004648/2020
	SUN600G (220V)	–	1	007493/2019
	SUN1300G	–	1	006585/2019
	SUN1600G	–	1	006291/2020
	SUN2000G	–	1	006290/2020
DEYE STRING (mono/bi 220V)	SUN-3K-G	1E1S-600V	5	007490/2019
	SUN-5K-G	2E2S-600V	5	007492/2019
	SUN-8K-G	4E2S-600V	5	001452/2020
DEYE STRING (trifásico 380V)	SUN-12K-G03	4E2S-1000V	10	005461/2020
	SUN-15K-G03	4E2S-1000V	10	005461/2020
	SUN-20K-G02	4E2S-1000V	10	005461/2020
	SUN-25K-G02	6E2S-1000V	10	005461/2020
	SUN-30K-G	6E2S-1000V	10	005461/2020
	SUN-33K-G	6E2S-1000V	10	005461/2020
	SUN-35K-G	9E3S-1000V	10	005461/2020
	SUN-40K-G	9E3S-1000V	10	005461/2020
	SUN-50K-G	12E4S-1000V	10	005461/2020
	SUN-60K-G	12E4S-1000V	10	005461/2020
	SUN-75K-G	2x 8E2S-1000V	10	005461/2020
	SUN-100K-G	2x 12E12S-1000V	10	001216/2021
DEYE STRING – LV (trifásico 220V)	SUN-12K-G02-LV	4E2S-1000V	10	006338/2020
	SUN-15K-G02-LV	4E2S-1000V**	10	006338/2020
	SUN-20K-G02-LV	6E2S-1000V	10	006338/2020
	SUN-25K-G02-LV	9E3S-1000V	10	006338/2020
	SUN-30K-G02-LV	8E4S-1000V**	10	006338/2020
	SUN-33K-G02-LV	8E4S-1000V**	10	–
	SUN-35K-G02-LV	8E4S-1000V**	10	006338/2020
	SUN-40K-G02-LV	12E4S-1000V**	10	–
	SUN-50K-G02-LV	12E4S-1000V**	10	–
DEYE HÍBRIDOS (mono/bi 220V)	SUN-3.6K-SG03	2E2S-600V	6	000300/2020
	SUN-5K-SG03	2E2S-600V	6	007492/2019
	SUN-8K-SG01	4E2S-600V	6	001452/2020

*Quantidade de módulos mínima para operação do inversor (e composição de kit gerador)

**Comporta mais strings, porém geralmente não é necessário (verificar no projeto)

	INVERSOR	STRING BOX	MÓDULOS*	INMETRO
SOLIS STRING (mono/bi 220V)	1P2K (mini)	1E1S-600V	4	003080/2020
	1P3K (mini)	1E1S-600V	4	003081/2020
	1P4K	2E2S-600V	5	003082/2020
	1P5K	2E2S-600V	5	003083/2020
	1P7K	3E3S-600V	5	005466/2020
	1P10K	3E3S-600V	5	005470/2020
SOLIS STRING (trifásico 380V)	3P10K	3E3S-600V	5	–
	3P15K	4E2S-1000V	7	–
	3P20K	4E2S-1000V	7	–
	3P25K	8E4S-1000V	13	–
	3P30K	8E4S-1000V	13	–
	3P40K	8E4S-1000V	8	–
	3P50K	12E4S-1000V	8	–
	3P60K	12E4S-1000V	8	–
SOLIS STRING – LV (trifásico 220V)	3P10K-LV	4E2S-600V	7	–
	3P15K-LV	4E2S-1000V	13	–
	3P20K-LV	4E2S-1000V	13	–
	3P25K-LV	6E2S-1000V	8	–

*Quantidade de módulos mínima para operação do inversor (e composição de kit gerador)

	INVERSOR	STRING BOX	MÓDULOS*	INMETRO
ECOSOLYS STRING	2000+	1E1S-600V	2	005575/2016
	3000	1E1S-600V	2	006918/2018
	10,1K (3F/220V)	4E2S-1000V	8	–
	10,1K (3F/380V)	2E2S-1000V	8	–

*Quantidade de módulos mínima para operação do inversor (e composição de kit gerador)

Marca	Potência [Wp]	Modelo	Nº de registro
DAH	400	HCP78X9-400W	005472/2020
DAH	440	DHM-72L9-440W	000672/2021
DAH	445	HCM78X9-445W	005471/2020
DAH	450	DHM-72L9-450W	002759/2021
DAH	540	DHM-72X10-540W	000672/2021
DAH	545	DHM-72X10-545W	003598/2021
Leapton	665	LP210*210-M-66-MH-665W	005781/2021
Luxen	390	LNSF-390M	002802/2020
Osda	340	ODA340W-36-P	002803/2020
Osda	390	ODA-390W36M	002801/2020
Osda	440	ODA440-36-MH	002494/2021
Osda	450	ODA450-36-MH	002494/2021
Osda	450 (BF)*	ODA450-36V-MHT	003072/2021
Osda	460	ODA460-36-MH	002494/2021
Osda	540	ODA540-36V-MH	002494/2021
Osda	545	ODA545-36V-MH	005640/2021
Osda	550	ODA550-36V-MH	002494/2021
Resun	550	RS8I550M	005779/2021
Shinefar	400	SF-M3/144400	002929/2021
Shinefar	450	SF-M16/144450	002929/2021
Shinefar	450 (BF)*	SF-M16/144450BF	003599/2021
Shinefar	545	SF-M18/144545	002929/2021
Shinefar	545 (BF)*	SF-M18/144545BF	003599/2021
Sunergy	340	SUN340-72P	005459/2020
Sunergy	440	SUN440-78M-HFD	005473/2020
Sunova	450	SS-450-72M	000453/2021
Sunova	540	SS-540-72MDH	001965/2021
Sunova	550	SS-550-72MDH	000453/2021

*módulo bifacial

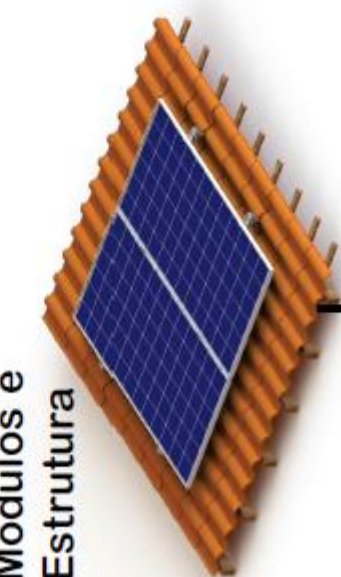
Aterramento Elétrico do Sistema Fotovoltaico



Módulos e
Estrutura

Inversor
Fotovoltaico

Instalação elétrica
existente



CONDUTOR PE

CONDUTOR PE

CONDUTOR PE



B.E.P.
Barramento de Equipotencialização
Principal



Eletrodo de
Aterramento

-NOTA:
Dimensionar condutores, eletrodos, etc.
conforme normas aplicáveis:
(NBR 5410, NBR 5419, NBR 16690, etc.)

Sistema Fotovoltaico com Inversor Híbrido



Módulos e Estrutura



Inversor Híbrido



Quadro Geral da Instalação



Backup



Micoinversor



Gerador



Baterias

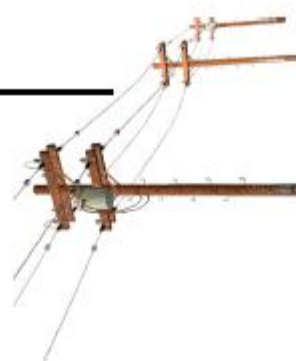
**Cargas Essenciais
(CIRCUITO SEPARADO)**

**Cargas "Normais"
(NÃO - ESSENCIAIS)**

Medidor kWh



Vai para a Rede



Rede Concessionária