

# Materiales que se pueden utilizar en paneles fotovoltaicos

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¿Quieres saber todo lo relacionado con los materiales fotovoltaicos? Aquí encontrarás información de interés sobre esto.

En este artículo, proporcionaremos una descripción general de los materiales utilizados en la producción de celdas fotovoltaicas para la generación de energía renovable, así como también

En este artículo, exploraremos los principales materiales que se emplean en la fabricación de paneles solares, su función y características, y cómo contribuyen al rendimiento y la

En esta guía práctica descubrirás los tipos de soportes para paneles solares, los materiales más habituales, la normativa española y los factores clave para elegir la mejor opción según tu tejado o

Adéntrate en el mundo del material de placas solares: desde silicio hasta soluciones autoinstalables, descubre cómo se transforma la luz en energía limpia

Los metales más destacados en los paneles solares son el cobre y el aluminio, que se utilizan para las conexiones eléctricas y el marco, respectivamente. Estos materiales son esenciales para asegurar

Las células pueden fabricarse con diferentes materiales, construirse en distintas capas y disponerse en varias formas en un panel solar. Los paneles solares pueden estar hechos de

Hay diferentes tipos de materiales fotovoltaicos disponibles, incluyendo silicio cristalino, película delgada y perovskita. Cada uno tiene sus propias fortalezas y debilidades, y se utiliza en una

Materiales Fotovoltaicos: Tipos Y Aplicaciones Tipos de Materiales Fotovoltaicos Aplicaciones de Los Materiales Fotovoltaicos Conclusión Los materiales utilizados en los dispositivos fotovoltaicos suelen ser silicio (monocristalino, policristalino o amorfo), arseniuro de galio, calcogenuros metálicos y

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organometálicos. Las células solares orgánicas se han convertido en un tema candente en la investigación industrial, ya que los materiales orgánicos conjugados procesables en solución...Ver más en energiasolarfotovoltaica

```
#b_results .b_vidAns{border-radius:6px;box-shadow:0 0 0 1px
rgba(0,0,0,.05);padding:16px 20px;gap:10px;background:#fff}@charset
"UTF-8";#b_results
.b_ans.b_vidAns{box-shadow:none!important;padding:var(--smtc-gap-between-content-medium)
0!important;background:var(--bing-smtc-background-ctrl-fade-on-image-stop-0)}#b_results
#serpvidans.vsacf .mc_vtvc,#b_results #serpvidans.vsacf .mc_vtvc_th,#b_results #serpvidans.vsacf
.cico,#b_results #serpvidans.vsacf .mc_vtvc_htb,#b_results #serpvidans.vsacf .vrhc,#b_results
#serpvidans.vsacf .vrhcp,#b_results #serpvidans.vsacf .vrhtc,#b_results #serpvidans.vsacf
.vrhtpc{border-radius:var(--mai-smtc-corner-card-default)}#b_results #serpvidans.vsacf .mmlist
.mc_vtvc,#b_results #serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta{margin:0}#b_results
#serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_channel,#b_results
#serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_row_channel{color:var(--smtc-foreground-content-neutral-primary)}#serpvidans.vsa
cf,#serpvidans.vsacf .expctn .expbody,#serpvidans.vsacf
.mmlist{display:flex;flex-direction:column;gap:var(--smtc-gap-between-content-medium)}#serpvidans
.vsacf .cico{height:auto}#serpvidans.vsacf .mc_vtvc_ban_lo{top:0;right:auto}#serpvidans.vsacf
.mc_cwvc .mc_vtvc .mc_vtvc_meta,#serpvidans.vsacf .mmlist .mc_vtvc
.mc_vtvc_meta{height:auto;padding:var(--smtc-gap-between-content-xx-small) 0
var(--smtc-gap-between-content-xx-small)
var(--smtc-gap-between-content-medium);display:flex;flex-direction:column;justify-content:space-bet
ween}#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta .mc_vtvc_title,#serpvidans.vsacf
.mmlist .mc_vtvc .mc_vtvc_meta
.mc_vtvc_title{color:var(--smtc-ctrl-link-foreground-brand-rest);font:var(--bing-smtc-text-global-body2
);height:auto;display:-webkit-box;-webkit-line-clamp:2;-webkit-box-orient:vertical}#serpvidans.vsacf
.mc_cwvc .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block_area,#serpvidans.vsacf .mc_cwvc
.mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block,#serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_block_area,#serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_block{display:flex;flex-direction:column;gap:var(--smtc-padding-ctrl-text-side)}#serpv
idans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block_area
.mc_vtvc_meta_row,#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block
.mc_vtvc_meta_row,#serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block_area
.mc_vtvc_meta_row,#serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block
.mc_vtvc_meta_row{color:var(--smtc-foreground-content-neutral-primary);height:var(--mai-smtc-pad
ding-card-default);font:var(--bing-smtc-text-global-caption1)}#serpvidans.vsacf .mc_cwvc .mc_vtvc
.mc_vtvc_meta .mc_vtvc_meta_block_area .mc_vtvc_meta_row
.mc_vtvc_meta_row_channel::before,#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_block .mc_vtvc_meta_row .mc_vtvc_meta_row_channel::before,#serpvidans.vsacf
.mmlist .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block_area .mc_vtvc_meta_row
.mc_vtvc_meta_row_channel::before,#serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_block .mc_vtvc_meta_row .mc_vtvc_meta_row_channel::before{content:" .
```

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```
"}#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta .mc_vtvc_meta_block_area
.mc_vtvc_meta_pubdate,#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_block .mc_vtvc_meta_pubdate,#serpvidans.vsacf .mmlist .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_block_area .mc_vtvc_meta_pubdate,#serpvidans.vsacf .mmlist .mc_vtvc
.mc_vtvc_meta .mc_vtvc_meta_block
.mc_vtvc_meta_pubdate{color:var(--bing-smtc-foreground-content-neutral-tertiary);padding-bottom:0
}.vsacf .mc_cwvc .mc_vtvc_con_rc,.vsacf .mmlist .mc_vtvc_con_rc{display:flex}.vsacf .mc_cwvc
.mc_vtvc_con_rc .mc_vtvc_meta_w,.vsacf .mmlist .mc_vtvc_con_rc
.mc_vtvc_meta_w{height:auto}.vsacf .b_title{padding-left:0}.vsacf .b_title
.mmtitle{font:var(--bing-smtc-text-global-subtitle1-strong);margin-bottom:0}.vsacf .b_title .mmtitle
a::after{content:"";margin:5px 5px 0 0;border-top:2px solid
var(--smtc-foreground-content-neutral-primary);border-right:2px solid
var(--smtc-foreground-content-neutral-primary);background-size:7px
7px;width:7px;height:7px;transform:rotate(45deg);display:inline-block;margin-left:4px}#serpvidans.vs
acf .b_title .mmtitle{margin-bottom:0}#serpvidans.vsacf .b_title .mmtitle
a{color:var(--smtc-foreground-content-neutral-primary)}#serpvidans.vsacf
.mc_cwvc{width:100%;margin-bottom:var(--smtc-gap-between-content-x-small)}#serpvidans.vsacf
.mc_cwvc .mc_vtvc{box-shadow:none}#serpvidans.vsacf .mc_cwvc .mc_vtvc
.mc_vtvc_meta{height:100%;padding:var(--smtc-gap-between-content-x-small) 0
var(--smtc-gap-between-content-x-small)
var(--mai-smtc-padding-card-default);background:var(--bing-smtc-background-ctrl-fade-on-image-st
op-0)}#serpvidans.vsacf .mc_cwvc .mc_vtvc .mc_vtvc_meta
.mc_vtvc_title{font:var(--bing-smtc-text-global-body1)}#serpvidans.vsacf .cardless.mmlist
.mc_vtvc_con_rc,#serpvidans.vsacf .cardless.mmlist .mc_vtvc_th{height:auto}#serpvidans.vsacf
.vsb_tr_c.va_tt{margin:0}#serpvidans.vsacf .vtbc .mv_vtvc_play,#serpvidans.vsacf .vtbc
.mv_vtvc_play_ext{position:static}#serpvidans.vsacf .va_tt
.mc_vtvc_ban_lo{display:block}#serpvidans.vsacf
.mc_bc{width:auto;border-radius:var(--smtc-ctrl-badge-sm-corner);padding:var(--smtc-padding-ctrl-te
xt-side) var(--smtc-gap-between-content-xx-small)}#serpvidans.vsacf .rmts .mc_bc
ems{display:none}#serpvidans.vsacf
a.vsb_tr_t{color:var(--smtc-foreground-content-neutral-primary)}.vsacf .va_tt .vsb_tr_chd
.mc_vtvc_th_dock.rmouseover{height:36px}.vsacf .va_tt .vsb_tr_chd
.mc_vtvc_th_dock{height:92px;position:absolute;bottom:0;background:linear-gradient(180deg,var(--
bing-smtc-background-ctrl-fade-on-image-stop-0) 0%,var(--mai-smtc-background-ctrl-on-image-rest)
100%)}.vsacf .va_tt a.vsb_tr_t{padding:0 0;font:var(--bing-smtc-text-global-body-2-alt-strong)}.vsacf
.va_tt .vsb_tr_chd .mc_vtvc .mc_vtvc_meta,.vsacf .va_tt .vsb_tr_chd .mc_vtvc
.mc_vtvc_title{color:var(--mai-smtc-foreground-ctrl-on-image-rest)}.vsacf
span.vcmt_ctt{font:var(--bing-smtc-text-global-caption2);margin:var(--smtc-gap-between-content-xx-
small) 0 0;height:16px}#serpvidans.vsacf .vsb_tr_chd .mc_vtvc_tot .mc_vtvc_title
strong{font-size:14px;line-height:20px;display:unset}#serpvidans.vsacf .va_tt .b_slrdp
.slide:not(:first-child){margin-left:var(--smtc-gap-between-content-small)}#serpvidans.vsacf .va_tt
```

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```
.vsb_tr_chd .mc_vtvc
.mc_vtvc_title{white-space:normal;display:-webkit-box;-webkit-line-clamp:2;-webkit-box-orient:vertic
al)#serpvidans.vsacf .b_module_expansion_control .b_btnContainer
.b_CompactExpansion{background-color:var(--bing-smtc-background-ctrl-neutral-rest);display:flex;ju
stify-content:center;align-items:center;gap:4px;width:fit-content;height:auto;padding:8px
12px)#serpvidans.vsacf .b_module_expansion_control .b_btnContainer .b_CompactExpansion
.b_CompactExpansionBtnText{font:var(--bing-smtc-text-global-caption1-strong);color:var(--bing-smt
c-foreground-content-brand-rest)}#serpvidans.vsacf .b_module_expansion_control .b_btnContainer
.b_CompactExpansion .b_arrow{display:flex;margin:0;height:auto)#serpvidans.vsacf
.b_module_expansion_control .b_btnContainer .b_CompactExpansion .b_arrow
path#Shape{fill:var(--bing-smtc-foreground-content-brand-rest)}#serpvidans.vsacf
.b_module_expansion_control
.b_btnContainer::after{content:"";position:absolute;width:100%;bottom:20px;left:0;height:1px;border-
radius:1px;background:var(--smtc-stroke-ctrl-on-neutral-rest)}#b_results
.b_ans.b_vidAns{box-shadow:none;padding:12px 20px 0)#b_results .b_ans.b_vidAns
.vasac{padding:unset;margin:0)#b_results .b_ans.b_vidAns .vsa
.b_attribution{padding-bottom:0)#b_results .b_ans.b_vidAns .cardless .salink{margin:0)#b_results
.b_ans.b_vidAns .mmlist .mc_vtvc{margin-top:10px)#b_results .b_ans.b_vidAns .mmlist .mc_vtvc
.mc_vtvc_meta{display:flex;flex-direction:column;justify-content:space-between;margin:0 10px 4px
12px)#b_results .b_ans.b_vidAns .mmlist .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_channel{color:#111)#b_results .b_ans.b_vidAns .mmlist .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_row_channel,#b_results .b_ans.b_vidAns .mmlist .mc_vtvc .mc_vtvc_meta
.mc_vtvc_meta_block_area{color:#666)#b_results .b_ans.b_vidAns .mmlist .mc_vtvc
.mc_vtvc_meta .mc_vtvc_meta_block_area{bottom:0;height:unset}.b_dark .vsa.cardless
.mc_vtvc{background-color:unset}.mmtitle>a{display:block}.mc_fh{height:100%;border-radius:6px}.
mc_tc_bs{overflow:hidden)#mc_cwvc_1775201138675 { width:356px; max-width: 100%; } .mc_vtvc
.mc_vtvc_meta { padding: 16px 16px 16px 16px; } .mc_vtvc .mc_vtvc_meta_w { height: 139px;
margin-top: -0px; } .mc_vtvc .mc_vtvc_title { height: 54px; line-height: 18px; margin-bottom: 18px;
margin-top: 0px; } .mc_vtvc .mc_vtvc_meta_block_area { height: 35px; } .mc_vtvc .vtmu, .mc_vtvc
.vtpl { bottom: 147px; } .mc_vtvc_th_dock { height: 139px; } .mc_vtvc_th .cico { height: 200px; }
.mc_vtvc{background-color:#fff;box-shadow:0 0 0 1px
rgba(0,0,0,.05);line-height:0;margin:0;position:relative;border-radius:6px;overflow:hidden}.mc_vtvc.n
oshadow{box-shadow:none}.mc_vtvc_con_rc{border-radius:6px;overflow:hidden;position:relative}.m
c_vtvc>a{color:#71777d;display:block;text-decoration:none;width:100%}.mc_vtvc>a:focus-visible::aft
er{outline:2px solid
var(--smtc-ctrl-focus-outer-stroke);width:100%;height:100%;content:"";outline-offset:-2px;position:abs
olute;top:0;left:0}.mc_vtvc_th{background-color:#d5d5d5;position:relative}.mc_vtvc_th
.cico{border-radius:0}.mc_vtvc_ban_lo,.mc_vtvc_ban_up{position:absolute;vertical-align:middle}.mc
_vtvc_ban_lo{bottom:0}.mc_vtvc_ban_up{top:0}.mc_vtvc_title{font-weight:normal;margin-bottom:11
px;overflow:hidden;color:#111;height:54px;line-height:18px}.mc_vtvc_title
a{display:inline-block;color:#111}.mc_vtvc_title
```

# Materiales que se pueden utilizar en paneles fotovoltaicos

```
a:hover{text-decoration:underline}.mc_vtvc_src_ico{float:left;margin-right:4px}.mc_vtvc_act{height:1
6px;margin-top:-40px;padding:12px
8px;z-index:1}.mc_vtvc_actc{right:16px;bottom:16px;position:absolute;display:inline-block;z-index:1}
.mc_vtvc_act_sep{border-top:1px solid #d5d5d5;height:40px;margin:0 8px}.mc_vtvc_fh
.mc_vtvc_act_sep,.mc_vtvc_fh .mc_vtvc_act{visibility:hidden}#serpvidans
.b_topTitle{margin-bottom:8px}.mc_vtvc_htc{width:100%;height:100%;position:absolute;top:0;botto
m:0;left:0;right:0}.mc_vtvc_htb{width:100%;height:100%;background:rgba(0,0,0,.7);position:absolute
;top:0;bottom:0;left:0;right:0}.mc_vtvc_ht{width:100%;padding:0
16px;line-height:16px;color:#fff;text-decoration:underline;word-break:break-word;box-sizing:border-b
ox;vertical-align:middle;text-align:center}.mc_vtvc_th_live_b{background-color:#c80000;color:#fff;dis
play:inline-block;padding:2px 8px;font:11px/14px
Arial;border-radius:2px;text-transform:uppercase;height:15px;width:26px;position:absolute;left:8px;to
p:110px}.isvctrl .isv
.mc_vtvc_ban_up{left:0;right:initial}.mc_vtvc_ban_lo,.mc_vtvc_ban_up{right:0}.vt_text.b_IRight
.b_ILLeft{margin:0 0 0 1px;height:14px;line-height:14px;padding:2px
8px;background:rgba(0,0,0,.75);border-radius:2px;font-weight:bold}.mc_vthtb{width:100%;height:10
0%;background:rgba(0,0,0,.7);position:absolute;top:0;bottom:0;left:0;right:0;display:table}.mc_vtht{w
idth:100%;padding:0
16px;line-height:16px;color:#fff;text-decoration:underline;word-break:break-word;box-sizing:border-b
ox;vertical-align:middle;text-align:center;display:table-cell}.vt_text.b_IRight .b_ILLeft{margin:0 0 0
1px;height:14px;line-height:14px;padding:2px
8px;background:rgba(0,0,0,.75);border-radius:2px;font-weight:bold}.emptyStyleForDebuggingPurpo
se{top:0}.emptyStyleForDebuggingPurpose{top:0}.mc_vtvc_center_play{width:32px;height:32px;bac
kground-size:contain;position:absolute;margin:auto;bottom:0;top:0;left:0;right:0;box-shadow:none;bo
rder-radius:0}.mc_vtvc_center_play.rmvbg{width:32px;height:32px;background-image:none}.mc_vtv
c_htb,.mc_vtvc_ht{display:none}.vt_onhv .mc_vtvc_htb{display:table}.vt_onhv
.mc_vtvc_ht{display:table-cell}.mc_vtvc_center_play{display:inline-block}.vt_onhv
.mc_vtvc_center_play{display:none}.mc_vtvc .vtmu,.mc_vtvc .vtpl{bottom:163px}.vsarf .mc_vtvc
.vtmu,.vsarf .mc_vtvc .vtpl{bottom:122px}.svarh #mmcar .mc_vtvc .vtmu,.svarh #mmcar .mc_vtvc
.vtpl{bottom:137px}.svarht #mmcar .mc_vtvc .vtmu,.svarht #mmcar .mc_vtvc
.vtpl{top:8px;left:8px}.mc_vtvc_center_play{background-image:url(data:image/svg+xml,%3Csvg%20
width%3D%2232%22%20height%3D%2232%22%20viewBox%3D%220%200%2032%2032%22%2
0fill%3D%22none%22%20xmlns%3D%22http%3A%2F%2F%2F2000%2Fsvg%22%3E%0D%0A%2
0%20%20%20%3Crect%20width%3D%2232%22%20height%3D%2232%22%20rx%3D%2216%22
%20fill%3D%22black%22%20fill-opacity%3D%220.6%22%2F%3E%0D%0A%20%20%20%20%3C
path%20d%3D%22M14.2354%2010.1923C13.2355%209.62986%2012%2010.3524%2012%2011.
4997V20.5C12%2021.6472%2013.2355%2022.3698%2014.2354%2021.8073L22.2356%2017.307
3C23.2551%2016.7339%2023.2551%2015.2661%2022.2357%2014.6926L14.2354%2010.1923Z%
22%20fill%3D%22white%22%20fill-opacity%3D%220.9%22%2F%3E%0D%0A%3C%2Fsvg%3E)}.
mc_vtvc_meta{box-sizing:border-box;display:inline-block;line-height:18px;position:relative;width:100
%}.mc_vtvc_meta_block{bottom:0;position:absolute;width:100%}.mc_vtvc_meta_row{line-height:16p
```





# Materiales que se pueden utilizar en paneles fotovoltaicos

```
.vadda{width:22px;height:18px;padding:0;margin-right:0;margin-left:2px;bottom:0;position:relative;di
splay:inline-block;z-index:1;background:rgba(0,0,0,.75);border-radius:2px;overflow:hidden}.vrhol
.vadda.hide{display:none}.vrhol .vadda .mc_vfaa{margin:3px 5px}.ricons .vol{float:left}.ricons
.adultFlag{float:right}.vol{width:22px;height:18px;bottom:0;margin-left:1px;margin-right:1px;position:r
elative;display:inline-block}.vol.hide,.vol .hide{display:none}.vol
.bg{background:rgba(0,0,0,.75);border-radius:2px}.vol.bg,.vol nt{position:absolute;bottom:0}.vol
.vol.bg.volNb{border-radius:0 0 2px 2px}.vol .volsliderHandle.bg{border-radius:2px 2px 0 0}.vol nt
.volsliderHandle{height:70px;display:none;width:22px;float:left;bottom:18px;position:absolute;display
:block}.vol nt .volsliderHandle.hide{display:none}.volsliderHandle
.vsb{height:54px;width:4px;background-color:#999;margin:9px auto
8px;position:relative;display:block;border-radius:2px}.volsliderHandle
.vsh{height:6px;width:14px;padding:9px 7px 9px 7px;margin:0
-12px;display:block;position:absolute;top:30px}.volsliderHandle
.vsh.hide{display:none}.volsliderHandle
.vshi{height:4px;width:14px;background-color:#fff;border-radius:2px}.volMutelcon{width:16px;height:
14px;margin:2px
4px;float:left}.volMuteHandle{width:22px;height:18px}.vo{background:url(/rp/fFZxBXEIP9WYOO0jhT
aElyLhEVU.svg) no-repeat}.vm{background:url(/rp/fsX-ZVd03wB2TL0vmQJxSp4U9vs.svg)
no-repeat}.vl{background:url(/rp/YXYMPC1Rry_XJGc7Yg8IR4B2eEs.svg)
no-repeat}.vf{background:url(/rp/NosrlR4amKTs1zYxWy3laZN3HRk.svg)
no-repeat}@media(forced-colors:active){.vol{forced-color-adjust:none}}.vrhc line .vt_vp,.vrhc.popout
.vt_vp,.vrhc.mousefollow
.vt_vp{position:absolute;bottom:0;border:hidden;padding:0;top:0;left:0;z-index:3}.vrhtc
.hide{display:none}.vrh_clc .vt_vp,.vrh_clc .vrhtc .vrhi,.vrh_clc .player_ol{cursor:pointer}.vrh_clc
.cico{border-radius:0}.vrhtc{border:hidden;top:0;left:0;padding:0}.vrhc.mousefollow
.vrhtc,.vrhc.popout .vrhtc{background-color:#999}.vrhtpc.load
.player_ol{background:url(/rp/J_o2maogFDeUOsovPJL-ofEuxJ4.gif) center center no-repeat}.vrhc
line .vrhtc .vrhi,.vrhc.popout .vrhtc .vrhi,.vrhc.mousefollow .vrhtc
.vrhi{position:absolutelimportant;border:hidden;z-index:2;padding:0;left:0;top:0}.player_ol{position:a
bsolute;width:100%;height:100%;bottom:0;border:hidden;z-index:7}.vrhc.popout,.vrhc
line,.vrhc.mousefollow{border-radius:6px;overflow:hidden;display:table-row-group;background:none}
.vrhc.popout,.vrhc.mousefollow{z-index:4;box-shadow:0 4px 4px rgba(0,0,0,.1),0 2px 80px
rgba(0,0,0,.2)}.vrhc line{z-index:1;margin:0}.vrhc.popout,.vrhc
line{position:absolute;top:0}.vrhc.popout{border:1px solid
#fff}.vrhc.mousefollow{position:fixed}.vrhcp{position:relative;top:0;left:0;display:table-row}.vrhcp
.vrhtc{position:relative;overflow:hidden}.vrhc.hide{display:none}@keyframes
vh_fadein{from{opacity:0}to{opacity:1}}.vrhc:not(.hide){animation:vh_fadein 250ms}.vrhc line
img{color:transparent}.vrhc
line.fullsize{height:100%}.vrhc,.vrhc: hover,.vrhc: link,.vrhc: active,.vrhc: visited{color:#000;text-decorati
on:none}.vrhc.vrh_clc{cursor:pointer}a.hover-anchor{display:block;height:100%;width:100%;text-dec
oration:none}.vrhstat{height:0;overflow:hidden}.mmlist .mc_vtvc .mc_vtvc_meta { padding: 12px
```

# Materiales que se pueden utilizar en paneles fotovoltaicos

```
16px 16px 16px; } .mmlist .mc_vtvc .mc_vtvc_meta_w { height: 112px; margin-top: -0px; } .mmlist
.mc_vtvc .mc_vtvc_title { height: 44px; line-height: 22px; margin-bottom: 0px; margin-top: 0px; }
.mmlist .mc_vtvc .mc_vtvc_meta_block_area { height: 40px; } .mmlist .mc_vtvc .vtmu, .mmlist
.mc_vtvc .vtpl { bottom: 120px; } .mmlist .mc_vtvc_th_dock { height: 112px; } .mmlist .mc_vtvc_th
.cico { height: 131px; } .mmlist .mc_vtvc{margin:10px 1px 0}.mmlist
.mc_vtvc_con_rc{display:flex}.cardless .mmlist .mc_vtvc_con_rc{height:112px}.mmlist .mc_vtvc
.mc_vtvc_meta{display:flex;flex-direction:column;justify-content:space-between;margin:0 10px 4px
12px;padding:0}.mmlist
.mc_vtvc_title{font-weight:400;font-size:16px;height:44px;line-height:22px;margin-bottom:0;margin-t
op:0;color:unset}.mmlist .mc_vtvc_meta_row{font-size:13px}.mmlist .mc_vtvc
.mc_vtvc_meta_block_area{height:unset}.mmlist .mc_vtvc .vtmu,.mmlist .mc_vtvc
.vtpl{bottom:8px}.cardless .mmlist .mc_vtvc{box-shadow:none}.cardless.mmlist
.mc_vtvc_center_play{width:32px;height:32px}.cardless.mmlist
.mc_vtvc_title{font-size:16px;color:unset}.cardless.mmlist
.mc_vtvc_meta_row{line-height:20px}.cardless.mmlist
.mc_vtvc_meta_pubdate{padding-bottom:2px;color:#666}.cardless.mmlist
.mc_vtvc_th,.cardless.mmlist .mc_vtvc_th .cico,.cardless.mmlist .mc_vtvc_th
div.rms_img{border-radius:6px}.cardless.mmlist .mc_vtvc_th{height:111px}.cardless.mmlist
.mc_vtvc_htc{border-radius:6px;overflow:hidden}#serpvidans.vasac.cardless{box-shadow:none}.car
dless.mmlist .mc_bc{padding:2px 8px;line-height:14px;border-radius:2px;font-weight:normal}.mmlist
.mc_vtvc:hover
.mc_vtvc_title{text-decoration:underline}.mmgrid>div{width:197px;display:inline-block;margin-right:8
px;margin-bottom:8px;box-shadow:0 0 0 1px
rgba(0,0,0,.05);position:relative;vertical-align:top;overflow:hidden;white-space:normal;border-radius:
6px}.vsarr .mmgrid>div,.vsarr1stbig .mmgrid>div{margin-right:8px;margin-bottom:8px}#serpvidansrr
.mc_vtvc .mc_vtvc_meta{height:auto}#serpvidansrr .mc_vtvc
.mc_vtvc_title{display:-webkit-box;-webkit-line-clamp:2;-webkit-box-orient:vertical}.mmgrid
.mc_tc{border:0}.vsa .mmgrid>div:nth-child(3n){margin-right:0}.vsa
.b_moreLink{padding-top:4px}#serpvidansrr
.mc_vtvc_meta_row{line-height:18px;font-size:100%;height:17px}.vsarr
.mmgrid>div:nth-child(2n){margin-right:0}#serpvidansrr .mc_vtvc .vtmu,#serpvidansrr .mc_vtvc
.vtpl{bottom:128px}.vsarr1stbig .mmgrid>div:nth-child(2){margin-right:0}#serpvidansrr.uipolish
.mc_vtvc_meta_pubdate,#serpvidansrr.uipolish .mc_vtvc_meta_channel,#serpvidansrr.uipolish
#vidans2 .b_videocard .video_metadata .video_source{color:#767676}#serpvidansrr #vidans2
.b_videocard .video_metadata_container,#serpvidansrr #vidans2 .b_videocard
.video_metadata_container
.video_metadata>h3{width:100%}@media(max-width:1362.9px){#serpvidansrr
.mmgrid>div{width:168px;height:206px}#serpvidansrr .mmgrid>div .cico,#serpvidansrr .mmgrid>div
.cico .rms_img{width:168px;height:100px}#serpvidansrr .mc_vtvc
.mc_vtvc_meta{padding:12px}#serpvidansrr .mc_vtvc
.mc_vtvc_title{height:32px;line-height:16px;margin-bottom:16px}#serpvidansrr .mc_vtvc
```

# Materiales que se pueden utilizar en paneles fotovoltaicos

```
.mc_vtvc_meta_block_area{height:34px}#serpvidansrr
.mc_vtvc_meta_row{line-height:15px;font-size:13px;height:15px}#serpvidansrr
.mc_vtvc_meta_pubdate{padding-bottom:4px}#serpvidansrr .mc_vtvc .vtmu,#serpvidansrr .mc_vtvc
.vtpl{bottom:114px}#serpvidansrr #vidans2 .b_videocard .videoPlayer,#serpvidansrr #vidans2
.b_videocard .videoPlayer .cico,#serpvidansrr #vidans2 .b_videocard .videoPlayer .cico
.rms_img{width:343px!important;height:194px!important;margin-right:0}}@media(max-width:1274.9p
x){#serpvidansrr .mmgrid>div{width:124px;height:164px}#serpvidansrr .mmgrid>div
.cico,#serpvidansrr .mmgrid>div .cico .rms_img{width:124px;height:76px}#serpvidansrr .mc_vtvc
.mc_vtvc_meta{padding:8px}#serpvidansrr .mc_vtvc
.mc_vtvc_title{height:32px;line-height:16px;margin-bottom:12px}#serpvidansrr .mc_vtvc
.mc_vtvc_meta_block_area{height:28px}#serpvidansrr
.mc_vtvc_meta_row{line-height:13px;font-size:11px;height:13px}#serpvidansrr
.mc_vtvc_meta_pubdate{padding-bottom:2px}#serpvidansrr .mc_vtvc .vtmu,#serpvidansrr .mc_vtvc
.vtpl{bottom:96px}#serpvidansrr #vidans2 .b_videocard .videoPlayer,#serpvidansrr #vidans2
.b_videocard .videoPlayer .cico,#serpvidansrr #vidans2 .b_videocard .videoPlayer .cico
.rms_img{width:256px!important;height:144px!important;margin-right:0}#serpvidansrr .maskthumb
.mc_bc_w{padding:8px 4px 4px 8px}#serpvidansrr.withsplitline
.mmgrid>div:nth-last-child(1),#serpvidansrr.withsplitline
.mmgrid>div:nth-last-child(2){margin-bottom:24px}#serpvidansrr.withsplitline
.mmgrid{border-bottom:1px solid #ecec;#serpvidansrr #vidans2 .b_videocard
.video_metadata{max-width:auto;padding:12px 16px}#serpvidansrr #vidans2
.b_videocard{margin-bottom:12px;box-shadow:0 0 1px rgba(0,0,0,.05),0 2px 3px
rgba(0,0,0,.1);border-radius:6px}#serpvidansrr .b_rich{padding-top:0}#serpvidansrr #vidans2
.videoPlayer{border-radius:6px 6px 0 0;overflow:hidden}#serpvidansrr #vidans2 .b_videocard
.video_metadata>h3{white-space:nowrap;overflow:hidden;text-overflow:ellipsis;-webkit-line-clamp:1;
line-height:15px;height:15px;font-size:13px;color:#000;margin-bottom:20px;font-family:"Arial",Helveti
ca,Sans-Serif;font-style:normal;display:block}#serpvidansrr.vsarr1stbig #vidans2 .b_videocard
.video_metadata .actionmenu{display:none}#serpvidansrr #vidans2 .b_videocard
.video_summary,#serpvidansrr #vidans2 .b_videocard .video_source{line-height:15px}#serpvidansrr
#vidans2 .b_videocard .videoPlayer
.vtbc{right:0}.vsb_tr_c{position:relative;width:100%;overflow:hidden;background:#1d1b28;height:583
px;margin-bottom:16px}.vsb_tr_c.tr_nh{height:294px}.vsb_tr_c .mm_vrc h2,.vsb_tr_c .mm_vrc
.see_more{display:none}.vsb_tr_c .mm_vrc>div{padding-bottom:20px}.vsb_tr_c
.vsb_tr_t{position:absolute;top:16px;left:160px;font:normal 16px/19px
"Arial",Helvetica,Sans-Serif;font-weight:700;color:#fff;z-index:1}.vsb_tr_c
.vsb_tr_t::after{width:17px;height:12px;display:inline-block;background-size:7px
12px;background-repeat:no-repeat;background-position-x:right;opacity:.7;content:""}.vsb_tr_c
.vsb_tr_t:hover::after{opacity:1}.vsb_tr_c .mm_vrc
.mc_vtvc{background-color:#585858;border-radius:6px}.vsb_tr_c .mm_vrc
.mc_vtvc_con_rc{border-radius:6px}.vsb_tr_c
.vsb_tr_chd{position:absolute;bottom:0;width:100%}.vsb_tr_c .onhov
```

# Materiales que se pueden utilizar en paneles fotovoltaicos

```
.mc_vtvc_ban_lo{display:none}.vsb_tr_chd .mc_vtvc_tot .mc_vtvc_title{line-height:15px}.vsb_tr_chd
.mc_vtvc_tot .mc_vtvc_meta_row,.vsb_tr_chd .mc_vtvc_tot .mc_vtvc_meta_row
a{color:#dadada}.vsb_tr_chd .grad_b{top:30%;height:auto}.vsb_tr_chd .mc_vtvc_tot
.mc_vtvc_meta_row{font-size:12px;line-height:16px;height:16px}.vsb_tr_chd .mc_vtvc_tot
.meta_pd_content{display:none}.vsb_tr_chd .mc_vtvc_tot .mc_vtvc_title
strong{font-weight:500}.vsb_tr_c .slide video{object-fit:cover}.vsb_tr_c .mc_vtvc_th
.cico{width:100%;height:100%}.vsb_tr_c .vrhcac{width:647px;position:absolute;width:calc(42% -
160px);bottom:200px;margin:0 0 0 160px;height:auto;padding:0;pointer-events:auto}.vsb_tr_c
.vrhcac .mc_vtvc_title{font:normal 30px/35px
"Arial",Helvetica,Sans-Serif;font-weight:700;height:70px;overflow:hidden;color:#fff;text-overflow:ellip
sis;display:-webkit-box;-webkit-box-orient:vertical;-webkit-line-clamp:2}.vsb_tr_c .vrhcac
.mc_vtvc_meta_block_area{height:50px;margin:12px 0 0 0}.vsb_tr_c .vrhcac
.mc_vtvc_meta_row{font:normal 13px/15px "Arial",Helvetica,Sans-Serif;margin:5px 0 5px
0;color:#dadada}.vsb_tr_c .mm_vrc .b_overlay .btn.bigrounded .cr>div,.vsb_tr_c .mm_vrc .b_overlay
.btn.bigrounded
.cr>div:hover{background-image:url(/rp/qA6EopzJjTm5qQJvnXlrWGNP778.svg)}.vsb_tr_c
.vsb_tr_t::after{background-image:url(data:image/svg+xml,%3Csvg%20width%3D%227%22%20hei
ght%3D%2214%22%20viewBox%3D%220%200%207%2014%22%20fill%3D%22none%22%20xml
ns%3D%22http%3A%2F%2F%2F2000%2Fsvg%22%3E%0D%0A%20%20%20%20%3Cpath%20d
%3D%22M0.186925%201.19491L5.4643%207L0.186925%2012.8051C-0.0623082%2013.0792%2
0-0.0623082%2013.5214%200.186925%2013.7944C0.436158%2014.0685%200.838112%2014.06
85%201.08628%2013.7944L6.81334%207.49465C6.93212%207.36515%207%207.18433%207%2
07C7%206.81567%206.93212%206.63485%206.81334%206.50535L1.08628%200.205616C0.837
052%20-0.0685388%200.435097%20-0.0685388%200.186925%200.205616C-0.0612477%200.47
9772%20-0.0623082%200.92192%200.186925%201.19491Z%22%20fill%3D%22white%22%20fill-
opacity%3D%220.7%22%2F%3E%0D%0A%3C%2Fsvg%3E)}.va_tt .mm_vrc{padding:11px 2px 0
0}.va_tt .vsb_tr_t{position:relative;top:auto;left:auto;font:normal 18px/22px
"Arial",Helvetica,Sans-Serif;font-weight:400;color:#4007a2;z-index:auto}.b_dark .va_tt
.vsb_tr_t{color:#82c7ff}.va_tt .vsb_tr_tp,.va_tt .vsb_tr_tl{display:inline-block;margin-right:5px}.va_tt
.vsb_tr_chd{position:relative}.vsb_tr_c.va_tt{--va-st-padding-bottom:16px;height:auto;background-co
lor:transparent;margin-top:22px;overflow:visible;padding-bottom:var(--va-st-padding-bottom);margin-
bottom:0}.va_tt .mc_vtvc_ban_lo,.va_tt .vsb_tr_t::after,.va_tt .mc_vtvc:hover
.mc_vtvc_center_play,.va_tt .vsb_tr_chd .vt_onhv .mc_vtvc .mc_vtvc_meta{display:none}.va_tt
.mc_vtvc:hover .mc_vtvc_ht,.va_tt .mc_vtvc:hover .mc_vtvc_htb{display:table-cell}.va_tt
.mc_vtvc_htb{padding-top:50px;background:linear-gradient(360deg,rgba(0,0,0,.6)
60.35%,rgba(0,0,0,0) 100%);font-size:11px;line-height:13px}.va_tt .mc_vtvc_ht{padding:0
24px;text-shadow:0 1px 2px rgba(0,0,0,.2)}.va_tt .mc_vtvc_center_play{bottom:52px}.va_tt
.mc_vtvc:hover
.mc_vtvc_title{max-height:52px;white-space:normal;display:-webkit-box;-webkit-box-orient:vertical;-
webkit-line-clamp:4}#serpvidans .va_tt .slide{margin-right:0;vertical-align:bottom;transition:width
.2s,height .2s;border-radius:var(--mai-smtc-corner-card-default)!important}#serpvidans .va_tt
```

# Materiales que se pueden utilizar en paneles fotovoltaicos

.slide:not(:first-child){margin-left:8px}#serpvidans .va\_tt .mm\_vrc>div{padding-bottom:0}.va\_tt .vsb\_tr\_chd .mc\_vtvc .mc\_vtvc\_meta{height:auto;padding:8px;color:#ddd}.va\_tt .vsb\_tr\_chd .mc\_vtvc\_th\_dock{height:72px;position:absolute;bottom:0;background:linear-gradient(360deg,rgba(0,0,0,.55) 60.35%,rgba(0,0,0) 100%)}.va\_tt .mc\_vtvc\_meta\_row\_channel{font-size:13px;line-height:15px;font-weight:500;color:#fff;white-space:nowrap;overflow:hidden;text-overflow:ellipsis;margin-bottom:6px}.va\_tt .vsb\_tr\_chd .mc\_vtvc .mc\_vtvc\_title{height:auto;font-size:11px;line-height:13px;color:#ddd;white-space:nowrap;overflow:hidden;text-overflow:ellipsis}.va\_tt .slide .mc\_vtvc{width:100%}.va\_tt .slide video{object-fit:cover}.va\_tt .mc\_vtvc\_th .cico{width:100%;height:204px}.va\_tt .b\_overlay .btn.bigrounded{top:auto;bottom:0;margin-bottom:93px}.va\_tt .vt\_onhv .mc\_vtvc\_htb{padding-top:86px}.va\_tt .vsb\_tr\_chd .mc\_vtvc .vtmu,.va\_tt .vsb\_tr\_chd .mc\_vtvc .vtpl{bottom:6px}.va\_tt .vcmt\_ctt,.va\_tt .vcmt\_ctt{display:block;margin-bottom:4px;font-size:11px}.va\_tt .vasyt::before{content:"";background:url() no-repeat;background-size:18px 18px;padding-right:22px}.va\_tt .vasig::before{content:"";background:url( CwjWTVmwMRKIMSG44W9hXIGRRKPRUMMCEySgidHEXfXjxkgJEU0ISEhEaltg0bZU7bTz99689 +49nvem5SfThVt5yc3ce+ee7zvfD869wP/9o/sXm4bKxUaAfQ6bnVkt9GZNiAwiuDpCmiM4MLDZwA KDMJNgJoKWGZO6ZZhPK0RHj44+O99GsGITuRhkzJkshwMF00ROwHM6hKzhCnjaREjFBCYmM HcDWYYmJSQKgblQgi7XIPXiEom9RKBcf1+X1gMF3USBZQjBk2sdPLY2h+6VTgJqSdYqybyVfWP Gw9x4FeWxKilhCY0FH9ZAI7L2yt9vP0BQ0s2dHZJ5hxB05zReObIWvQMF/Jdv+uwMrrzzMxo1g4Bs NI29q42gK/J6SzGB8bH9zf4E/PqJMUyN/A79ZxVpMSHFWgKMmGGSGuTXIZBbvxl9BzYgm1+PK3 vOJgQe7N4l3HsEuofOiyht6Xu+E79+dAXTX40t1iCQodkRI2yxR6xiEpNWfjBEsVmVTy6iY/d6rO5zU RmvwCcHbQTdknIJe3i875FkHV6c5G4ul0dNyva46Dz0EqX6u0GFNPzRG1T78HsQxUqAYOQXQA g6+/Nsj90h34TcRIASBUUWFatWJev0xDjlqcaZngKXPt9Bcb/4lxeK7wipjU+j84sdKL96AnqqKhrsGJC cNVIKi9oUaWojKKlUo4IMecm6k6bZogj5A9ulazVU3jjGPFNGbI7/5RkqfnYQKw4NorLnU6IGC4YohF K+nLlnkVqarOB5dOAvuKgladakMNVyfYZBOcuAbOTIFWDsuqEO7e5+e2PsPt7BLQORY0WgVxK kjktJmAgg6a4xLNwqVqlk/AiKSwXJMAxJnVEghRIJfXoniPChmQ1ZBNp+W5KCDlgYzmdgVqlgpqW kL91h8xoGRrbkwgNfgCrNU52RRS2YvnzsbneJ67kGQvWbeSEktVHE9+ew3y4nIKIYIU0NrlSibSj/6x 9yk7fByZj98lff68KBD7tmxJjjSPHU8sAaUWUUQBPFaK22uQTf9DIPfYLEy1NtZ1SaVD6PAP1A+9Dj 09BmfbNjhbN0NPjqOxfzfz/G0my2Onf1WCyDMzYIFzeQVWscHsGtJz15N1astmNL87Gbcna32bGqff Ak5KbCQ5BdKzTYvEV8CXi7fhqSTG3BiXA02i+x7puwRcikgloOtXObp5idKDr4HVAsLJi8SzY5y8yyH YhLGLCuzLk9GzBqkNg0hv34noh5/YTFwnljDodzmc8JY8/E+YDFN95CByLx+Gu3U/XCx24PK/yRd

# Materiales que se pueden utilizar en paneles fotovoltaicos

dvQx/+D2pWSRvdyhg1s12gg59ChI9mDKW1MzAO3cE1rWvobr6oHKPin4N8QocCUAKT0RIbGZno Cd+I3NN8IwicqRdTSQqotNtBMgFw6qQH1JufoDcrNz7tPRzBfz3JehZI8BifODDeHUZNXAjJFRtUNV ipGyilNiWkmse6MvGjoaxnNTyN0NFV7I72S3sstxML9nxBRL7I00c+my8BhmvwqZRJVovMKoStCDg QsQV+xbNq1OmYoZLo6PzeGi+fwFJbz1lhJBeawAAAABJRJU5ErkJggg==)

no-repeat;background-size:18px 18px;padding-right:22px}.va\_tt .vastt::before{content:"";background:url( AAwAAAAMCAYAAABWdVznAAAA90IEQVR4AZWQu2sCQRDGJyYHCQdqPEKqSHr7NOZFyvQJi J1YKYII1irY+ieoiKXYKZanil3Wloqg4AMfhaAcCMJ93q2vwkXODz6WnZnf7swQEUU0w6D1Wn7y4c OJO/sLL8cH8ps1ernCdYCueCoJm03iAyaLGWa3SzstDFg028BoBvnfdw4IW+r+hTgtLVUX67ZcBcjC KV0HEI/h0epT2cgT8IBAljyt+KNNsHMLU3yhUUebH+xGwWx+JRjOKdutUk+53wZVCPLGvnj/f2ZCF chXh6RjDwYS1dnFLHo8XvZIMNVuE7PyD1SScATcHyqhuNevQt8H62BZHiaf6ZtXqegAAAABJRJU5 ErkJggg==) no-repeat;background-size:contain;padding-right:20px}.va\_tt .vasfb::before{content:"";background:url(/rp/zvtkyPveEhrXqHA-euzAa983fpQ.png) no-repeat;background-size:contain;padding-right:20px}.vcmt\_ ctt.vasyt::before{background-size:15px 15px;padding-right:19px}.vcmt\_ ctt.vasig::before{background-size:15px 15px;padding-right:19px}.vcmt\_ ctt.vastt::before{background-size:contain;padding-right:17px}.vcmt\_ ctt.vasfb::before{padding-right:17px}.mm\_vrc{padding:24px 32px}@media screen and (max-width:1022px){.mm\_vrc{margin:0}}@media screen and (max-width:766px){.mm\_vrc{margin:0}}.mm\_vrcc{padding:0 0 32px 0;margin-bottom:0}.mm\_vrcc h2{padding-bottom:20px}.mm\_vrcc h2 a{font-family:"Segoe UI",Arial,Helvetica;font-size:20px;color:#000;line-height:18px}.mm\_vrcc .b\_overlay .btn{z-index:3}.mm\_vrcc .vrhc{z-index:2}.mm\_vrcc .mc\_vtvc\_th .cico{padding-bottom:0}#dg\_c .mm\_vrc,#dg\_c .mm\_vrcc{padding:8px 16px 0 16px}#dg\_c .mm\_vrcc .mc\_vtvc{width:100%}#dg\_c .mm\_vrcc a:hover{text-decoration:underline}.isvctrl .mm\_vrcc .slide{overflow:visible}.mm\_vrc{padding:16px 100px 0 160px}.mm\_vrc .b\_overlay .btn.bigrounded.next{right:-44px}.mm\_vrc .b\_overlay .btn.bigrounded.prev{left:-44px}.mm\_vrc .b\_overlay .btn.bigrounded .cr>div,.mm\_vrc .b\_overlay .btn.bigrounded .cr>div: hover{box-shadow:none;border-radius:0;margin:0;background-position:16px 9px;background-size:12px 22px;background-color:transparent;background-image:url(/rp/rKVnxf6wkbxI0Dba2Au3IVC5Sog.svg) } .mm\_vrc .b\_overlay .btn.bigrounded .cr>div{opacity:.7}.mm\_vrc .b\_overlay .btn.bigrounded .cr>div: hover{opacity:1}.mm\_vrc h2 a{font-family:"Arial",Helvetica,Sans-Serif;font-style:normal;font-weight:500;color:#111}.mm\_vrc h2{display:inline-block;padding-bottom:16px}.mm\_vrc>div{position:relative;padding-bottom:32px}.m m\_vrc .see\_more{position:absolute;right:0;top:3px}.mm\_vrc .see\_more>a{font-family:"Arial",Helvetica,Sans-Serif;font-style:normal;font-weight:normal;font-size:1 6px;line-height:18px;color:#000}#vsb\_more{padding:16px 0 4px 160px;color:#111}#vsb\_vid\_cat .mm\_vrc h2 a::after{display:inline-block;margin-left:12px;content:"";background-image:url(/rp/rKVnxf6wkbxI0Dba 2Au3IVC5Sog.svg);background-size:7px 14px;width:7px;height:14px;opacity:.7}#vsb\_vid\_cat .mm\_vrc h2 a: hover::after{opacity:1}.mm\_vrc

# Materiales que se pueden utilizar en paneles fotovoltaicos

```
.mm_vrc_sub{display:inline-block;margin-left:24px}.mm_vrc
.b_hList{position:absolute;height:20px;top:3px;overflow:hidden}.mm_vrc
.b_hList>li{padding-right:24px;padding-bottom:0}.mm_vrc .b_hList a{font:normal 13px/20px
"Arial",Helvetica,Sans-Serif;color:#111}.mm_vrc .mc_vtvc_tot .mmsts
.mc_vtvc_meta{display:none}.vsb_tr_chd .mc_vtvc .mc_vtvc_meta { padding: 10px 10px 10px 10px;
} .vsb_tr_chd .mc_vtvc .mc_vtvc_meta_w { height: 190px; margin-top: -0px; } .vsb_tr_chd .mc_vtvc
.mc_vtvc_title { height: 150px; line-height: 15px; margin-bottom: 0px; margin-top: 0px; } .vsb_tr_chd
.mc_vtvc .mc_vtvc_meta_block_area { height: 20px; } .vsb_tr_chd .mc_vtvc .vtmu, .vsb_tr_chd
.mc_vtvc .vtpl { bottom: 198px; } .vsb_tr_chd .mc_vtvc_th_dock { height: 190px; } .vsb_tr_chd
.mc_vtvc_th_dock { height: 60px; }.tr_bt .mc_vtvc_th
img{height:auto;width:100%}.grad_b{position:absolute;width:100%;top:30%;bottom:0%;background:l
inear-gradient(180deg,rgba(48,44,39,0) 0%,#302c27
100%)} .mc_vtvc_th_dock{width:100%;background:#302c27}.mc_vtvc_tot
.mc_vtvc_th{background-color:transparent}.vsadc .grad_b{top:81.8%}.mc_vtvc_tot
.mc_vtvc_meta{line-height:15px;position:absolute;bottom:0%;background:transparent}.mc_vtvc_tot
.mc_vtvc_meta_row{line-height:16px;font-size:12px;height:16px}.mc_vtvc_tot
.mc_vtvc_meta_row,.mc_vtvc_tot .mc_vtvc_meta_row a{color:#dadada}.mc_vtvc_tot
.mc_vtvc_title,.mc_vtvc_tot .mc_vtvc_title a{color:#fff}.vsadc .mc_vtvc_tot
.mc_vtvc_title{line-height:18px}.vsadc .mc_vtvc_tot .mc_vtvc_meta_row,.vsadc .mc_vtvc_tot
.mc_vtvc_meta_row a{color:rgba(255,255,255,.7)}.vsadc
.mc_vtvc_meta_pubdate{padding-bottom:2px}.vtdc_default{background:#302c27}.vtdc_default_g{ba
ckground:linear-gradient(180deg,rgba(48,2,39,0) 0%,#302c27
100%)} .vtdc_black{background:#111}.vtdc_black_g{background:linear-gradient(180deg,rgba(17,17,
17,0) 0%,#111
100%)} .vtdc_blue{background:#3a4e74}.vtdc_blue_g{background:linear-gradient(180deg,rgba(58,7
8,116,0) 0%,#3a4e74
100%)} .vtdc_brown{background:#69423d}.vtdc_brown_g{background:linear-gradient(180deg,rgba(1
05,66,61,0) 0%,#69423d
100%)} .vtdc_grey{background:#464646}.vtdc_grey_g{background:linear-gradient(180deg,rgba(70,7
0,70,0) 0%,#464646
100%)} .vtdc_green{background:#324f32}.vtdc_green_g{background:linear-gradient(180deg,rgba(50
,79,50,0) 0%,#324f32
100%)} .vtdc_orange{background:#8c5400}.vtdc_orange_g{background:linear-gradient(180deg,rgba
(140,84,0,0) 0%,#8c5400
100%)} .vtdc_pink{background:#a3394b}.vtdc_pink_g{background:linear-gradient(180deg,rgba(163,
57,75,0) 0%,#a3394b
100%)} .vtdc_purple{background:#774077}.vtdc_purple_g{background:linear-gradient(180deg,rgba(1
19,64,119,0) 0%,#774077
100%)} .vtdc_red{background:#811515}.vtdc_red_g{background:linear-gradient(180deg,rgba(129,21
,21,0) 0%,#811515
100%)} .vtdc_white{background:#464646}.vtdc_white_g{background:linear-gradient(180deg,rgba(70,
```

# Materiales que se pueden utilizar en paneles fotovoltaicos

70,70,0) 0%,#464646  
100%}}.vtdc\_yellow{background:#755b00}.vtdc\_yellow\_g{background:linear-gradient(180deg,rgba(17,91,0,0) 0%,#755b00 100%}}.vtdc\_tea{background:#256868}.vtdc\_tea\_g{background:linear-gradient(180deg,rgba(37,104,104,0) 0%,#256868 100%}}.cipt,.cipg,.cipa,.cipl,.ciptr,.ciplr{display:inline-block}.cipa,.cipl,.ciplr{cursor:pointer}.vab{vertical-align:bottom}.vam{vertical-align:middle}.vat{vertical-align:top}.vabl{vertical-align:baseline}.vatt{vertical-align:text-top;border-radius:0}.vatb{vertical-align:text-bottom} evronDown12, evronUp12{background:url(/rp/QKITrqL25sGDqfRYQjkMWJWDeG8.png) no-repeat;background-size:494px 58px;width:12px;height:12px} evronDown12{background-position:-372px 0} evronUp12{background-position:-372px -14px}@media(prefers-color-scheme:dark){#bpage.b\_med evronDown12{background-position:-386px 0}#bpage.b\_med evronUp12{background-position:-386px -14px}}#bpage.b\_drk evronDown12{background-position:-386px 0}#bpage.b\_drk evronUp12{background-position:-386px -14px}.cipt,.cipl{margin-right:10px}.cipt .cico,.cipl .cico,.ciptr .cico,.ciplr .cico{border-radius:0}.b\_action>.cipt,.b\_action>.cipl{float:left}.ciptr,.ciplr{margin-left:10px}.sw\_play{height:16px;width:16px}:not(.dc\_aud\_wrp)>.sw\_play{background-image:url();background-size:16px 16px}#slideexp1\_712B92 .slide { width: 94px; margin-right: 20px; }#slideexp1\_712B92c .b\_slidebar .slide { border-radius: 6px; }#slideexp1\_712B92 .slide:last-child { margin-right: 1px; }.b\_sldr .slide{box-shadow:0 0 0 1px rgba(0,0,0,.05)}.b\_cards .cico,.b\_slidebar .slide .cico{border-radius:0}#b\_content .b\_wpt\_container .l\_eocrd\_imgsetgrid.l\_eocrd\_imgsetgrid\_actionlink .l\_eocrd\_imgsetgrid\_item .cico{border-radius:0!important}.b\_sldr .slide.see\_more{box-shadow:0 0 0 0 rgba(0,0,0,0)}.b\_sldr .slide.see\_more .carousel\_seemore{border:0}.b\_sldr .slide.see\_more:hover{box-shadow:0 0 0 0 rgba(0,0,0,0)}#slideexp1\_712B92c { margin: -4px; } #slideexp1\_712B92c .b\_viewport { padding: 4px 1px 4px 1px; margin: 0 3px; }#slideexp1\_712B92c .b\_slidebar .slide[data-mini="1"] { display:none; }Vídeos de Materiales Que Se Pueden Utilizar En Paneles FotovoltaicosVer vídeo9:18INNOVATIVE and surprising uses of SOLAR PANELS Tendencias Tecnológicas20,6K visualizaciones11 de jun. de 2023Ver vídeo completoVer vídeo6:07Instalación de Paneles Solares Paso a Paso | GUÍA COMPLETA Otovo Iberic14,6K visualizaciones21 de oct. de 2024Ver vídeo11:38? Todo sobre Paneles Solares: Tipos, Funcionamiento y Elección | Curso Energía Solar (Lección 3) Borja -

# Materiales que se pueden utilizar en paneles fotovoltaicos

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`.b_imgcap_altitle p strong, .b_imgcap_altitle .b_factrow strong{color:#767676}#b_results .b_imgcap_altitle{line-height:22px}.b_imgcap_altitle{display:flex;flex-direction:row-reverse;gap:var(--mai-smtc-padding-card-nested-default)}.b_imgcap_altitle .b_imgcap_img{flex-shrink:0;display:flex;flex-direction:column}.b_imgcap_altitle .b_imgcap_main{min-width:0;flex:1}.b_imgcap_altitle .b_imgcap_img>div, .b_imgcap_altitle .b_imgcap_img a{display:flex}.b_imgcap_altitle .b_imgcap_img img{border-radius:var(--mai-smtc-corner-card-default)}.b_hList img{display:block}.b_imagePair ner img{display:block;border-radius:6px}.b_algo .v2v2 img{border-radius:0}.b_hList .cico{margin-bottom:10px}.b_title .b_imagePair> ner, .b_vList>li>.b_imagePair> ner, .b_hList .b_imagePair> ner, .b_vPanel>div>.b_imagePair> ner, .b_gridList .b_imagePair> ner, .b_caption .b_imagePair> ner, .b_imagePair> ner>.b_footnote, .b_poleContent .b_imagePair> ner{padding-bottom:0}.b_imagePair> ner{padding-bottom:10px;float:left}.b_imagePair.reverse> ner{float:right}.b_imagePair .b_imagePair:last-child:after{clear:none}.b_algo .b_title .b_imagePair{display:block}.b_imagePair.b_cTxtWithImg>{*vertical-align:middle;display:inline-block}.b_imagePair.b_cTxtWithImg> ner{float:none;padding-right:10px}.b_imagePair.square_s> ner{width:50px}.b_imagePair.square_s{padding-left:60px}.b_imagePair.square_s> ner{margin:2px 0 0 -60px}.b_imagePair.square_s.reverse{padding-left:0;padding-right:60px}.b_imagePair.square_s.reverse> ner{margin:2px -60px 0 0}.b_ci_image_overlay:hover{cursor:pointer} sightsOverlay, #OverlayIFrame.b_mcOverlay sightsOverlay{position:fixed;top:5%;left:5%;bottom:5%;right:5%;width:90%;height:90%;border:0;border-radius:15px;margin:0;padding:0;overflow:hidden;z-index:9;display:none}#OverlayMask, #OverlayMask.b_mcOverlay{z-index:8;background-color:#000;opacity:.6;position:fixed;top:0;left:0;width:100%;height:100%}Placas Solares del Futuro Materiales utilizados en paneles solares: descripción y En este artículo, proporcionaremos una descripción general de los materiales utilizados en la producción de celdas fotovoltaicas para la generación de energía`

Descubre los materiales clave de los paneles solares: silicio, vidrio, EVA, backsheet, caja de conexión, marco y conectores. ¡Aprende a elegir paneles eficientes y duraderos!

Una vez vistos de qué están compuestos los paneles solares, puede que te preguntes, ¿y de qué material están hechas las placas solares? Los principales materiales que se

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