



ar racking
STORAGE SOLUTIONS

► AULA UPV

Septiembre 2025

AULA UPV

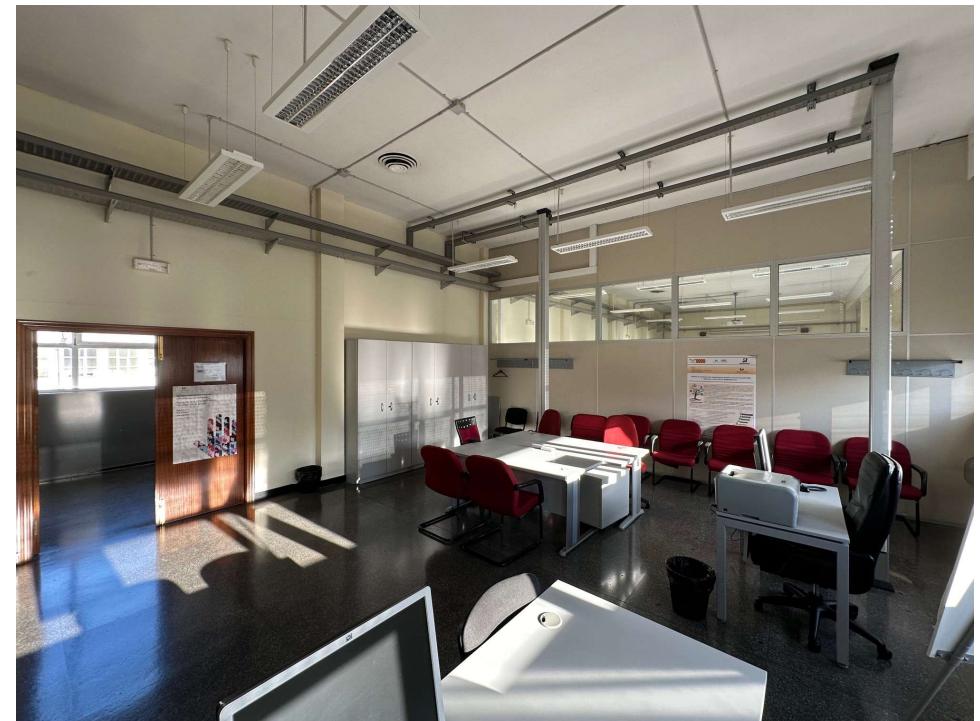


- CONTACTO:
 - Jesus Cuadrado: 636695501
 - jesus.cuadrado@ehu.es
- PARKING
 - entrada que compartimos con el acceso al campo de futbol de San Mamés.
- AULA AR-RACKING: 3^ªPLANTA edificio A

AULA AR RACKING

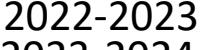
AULA P3A4L

- 6 puestos -4 ordenadores
- SOFTWARE:
 - RFEM5 y RFEM 6 → Proveedor Dlubal
 - ABAQUS: 2 licencias



RESUMEN PROY. I+D+i EJECUTADOS

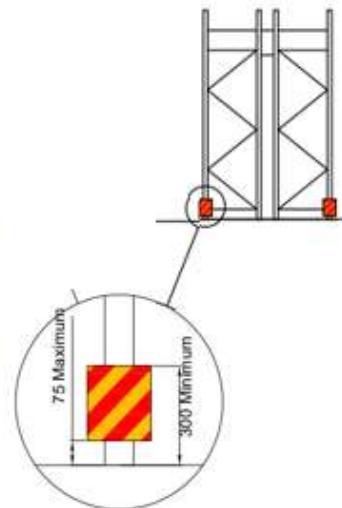
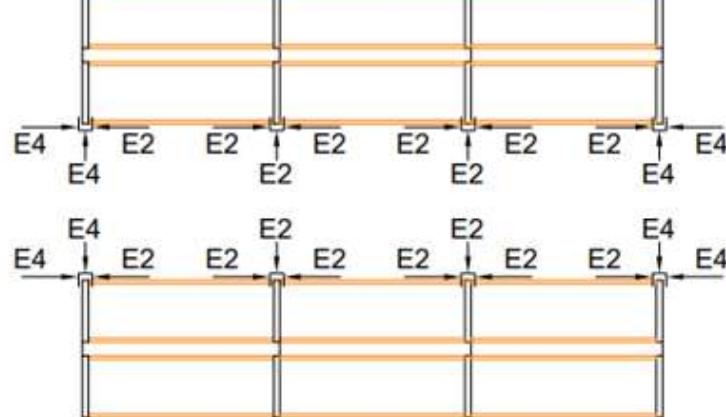
INGENIERÍA

- GUIA DISEÑO ABAQUS  2023-2024
- CALCULO DE RAILS EN SISTEMAS SHUTTLE
 - ANALISIS DE FATIGA EN COMPONENTES DE ESTANTERIA SHUTTLE  2021-2022
 - ANALISIS DE EFECTOS LOCALES EN RAILS  2022-2023
- DESARROLLO DE UNA METODOLOGÍA PARA EL CÁLCULO DEL MOMENTO CRÍTICO ELÁSTICO FRENTE A PANDEO LATERAL EN PERFILES CONFORMADOS EN FRÍO  2021-2022
- TRAVESAÑO REALZABLES OMEGA  2022-2023
 2023-2024
- IMPACTO PROTECTOR PUNTAL  2024-2025
- ANGULAR MINILOAD  2024-2025
- REAPROVECHAMIENTO CALOR CHIMENEAS  2024-2025
- TABLAS CARGA MEDIA CARGA  2024-2025

P01
IMPACTO PROTECTOR PUNTAL

Extender método calculo de impacto de protección GS100 a otras protecciones

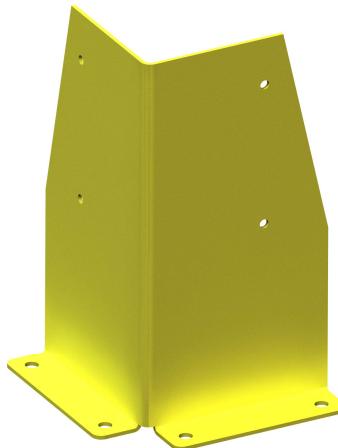




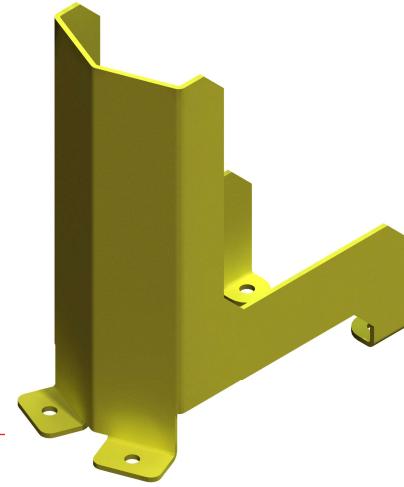
**PROTECTOR
GS80//120**



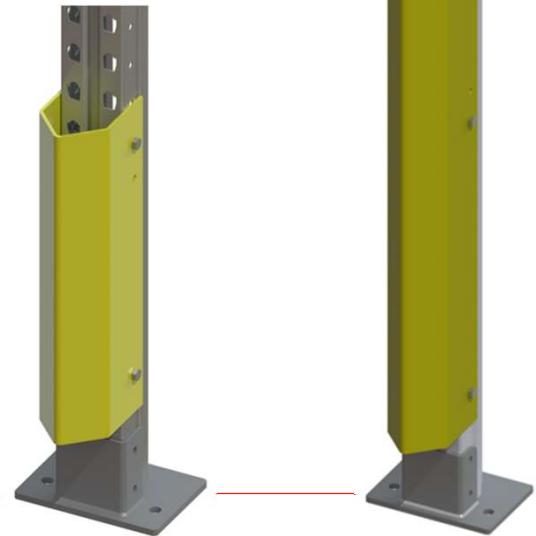
**PROTECCION
ESQUINA**



**PROTECTOR
LB80//100//120**



**PROTECTOR
NS400**

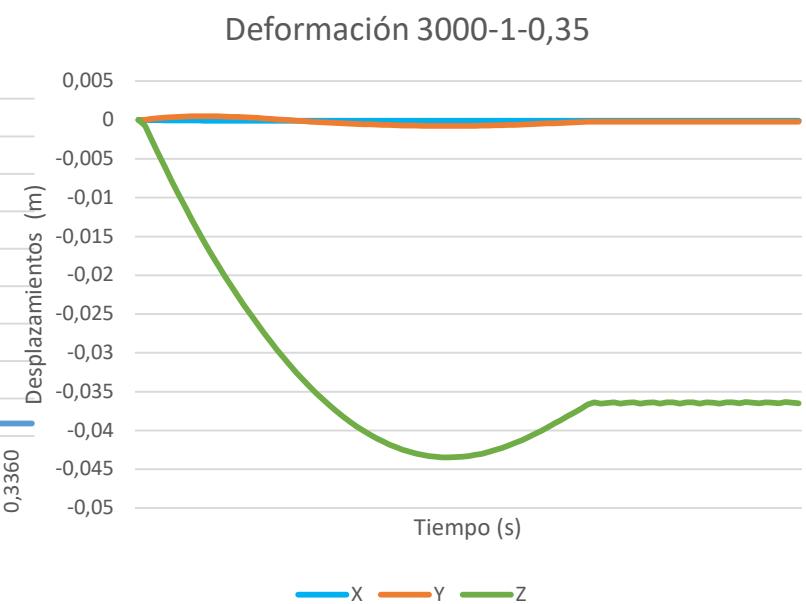
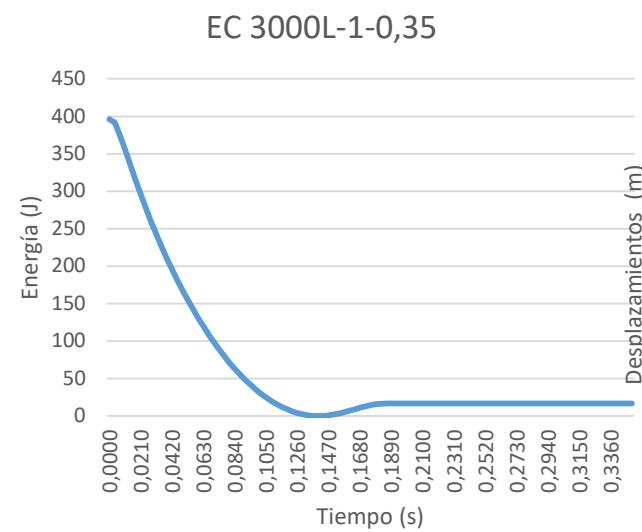
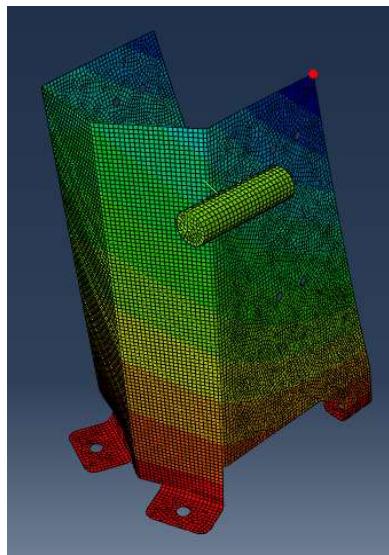
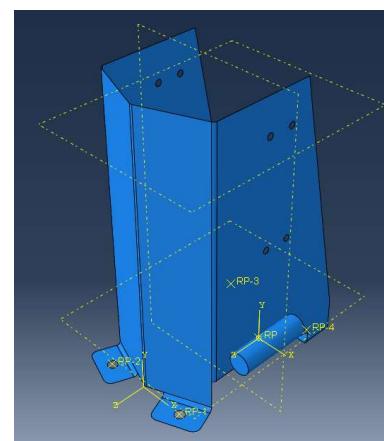
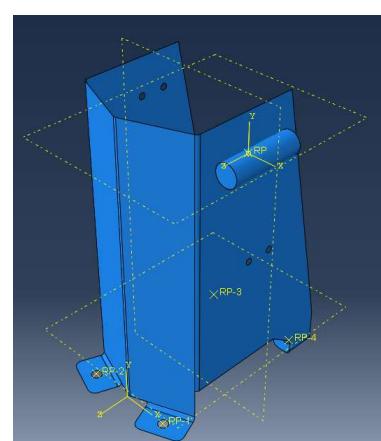
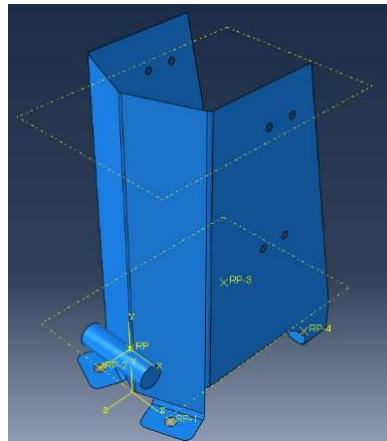
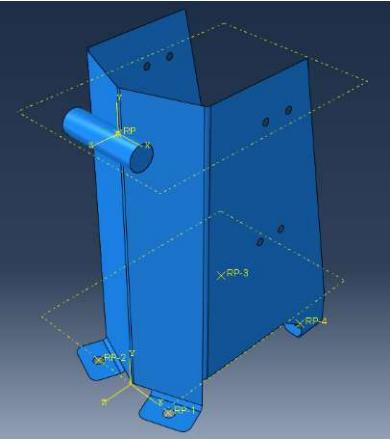


PROTECTOR PNS

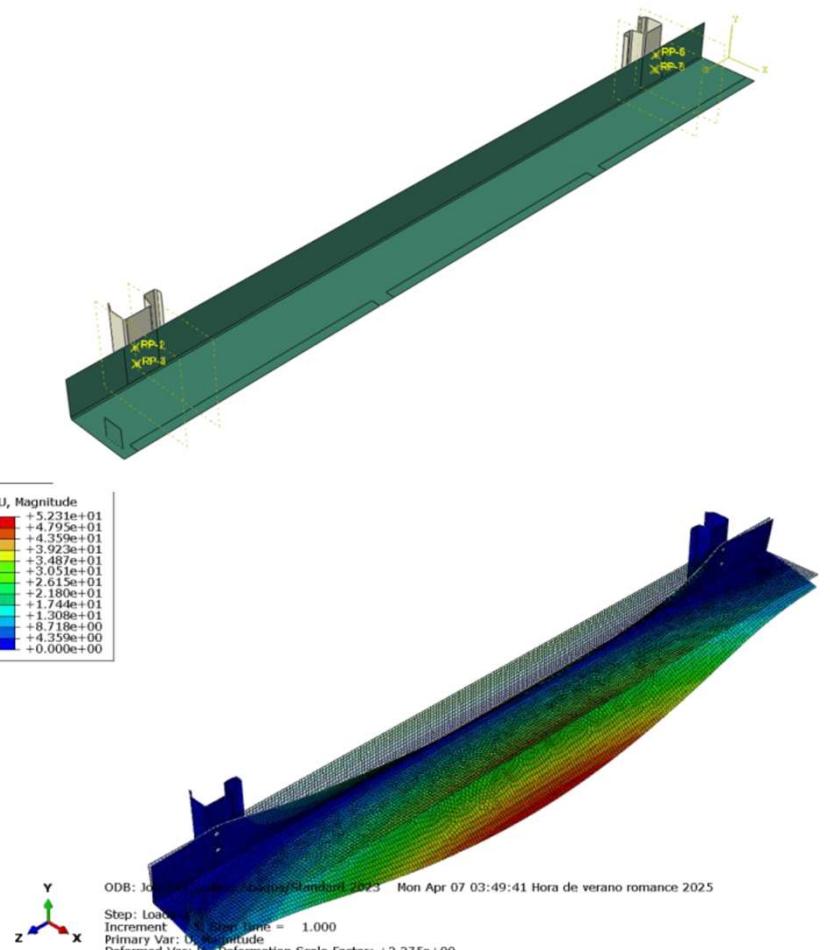
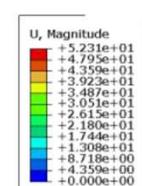
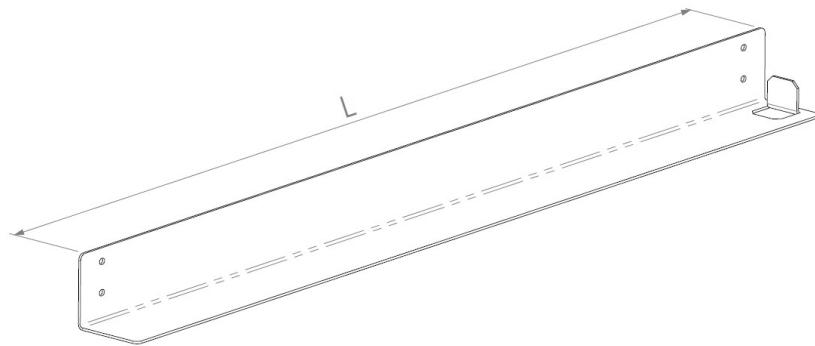


P01
IMPACTO PROTECTOR PUNTAL

Extender desarrollo de impacto en protección GS100 a otras protecciones



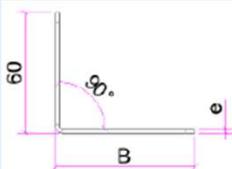
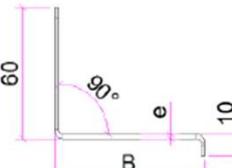
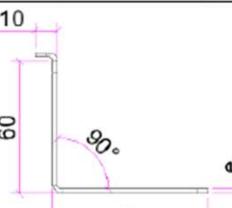
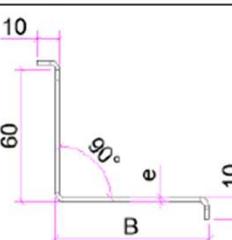
Parametrizacion geométrica- cargas -Extracciones de datos



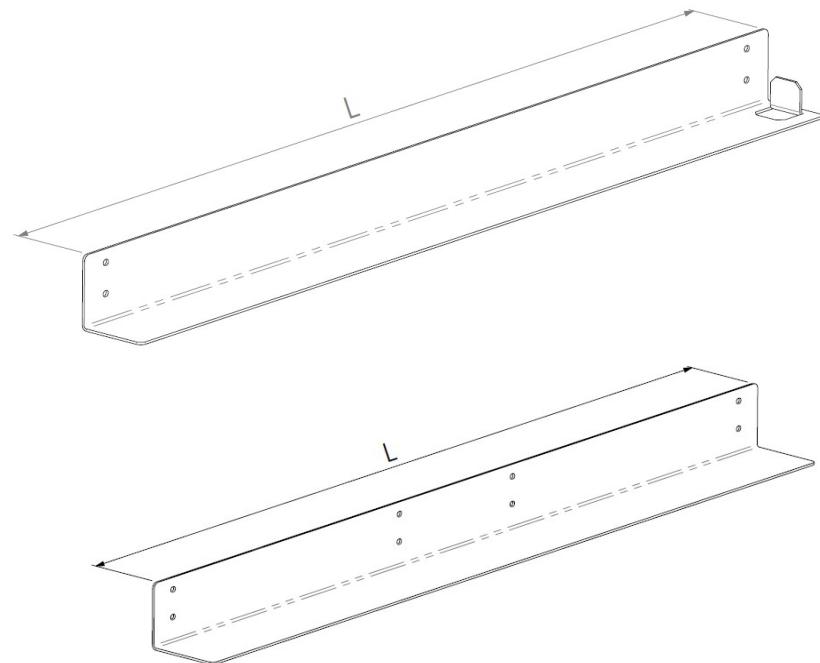
 **SIMULIA**
ABAQUS

Parametrizacion geométrica

Parametrizacion secciones

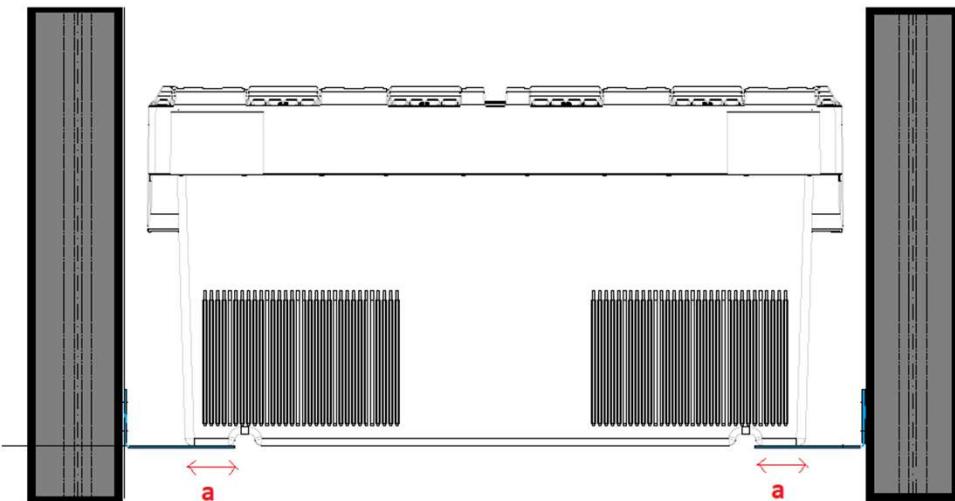
Descripción	Sección	Utilización	Código de las pestañas
Angular Tipo A		Angulo simple 60xB	SIN PESTAÑAS [NO]
Angular Tipo B		Angulo 60xB con pestaña inferior	PESTAÑA INFERIOR [PI]
Angular Tipo C		Angulo 60xB con pestaña superior	PESTAÑA SUPERIOR [PS]
Angular Tipo D		Angulo 60xB con pestaña inferior y superior	AMBAS PESTAÑAS [PA]

Parametrizacion localizacion apoyos y longitud



Parametrizacion cargas

Parametrizacion localización de apoyo de carga



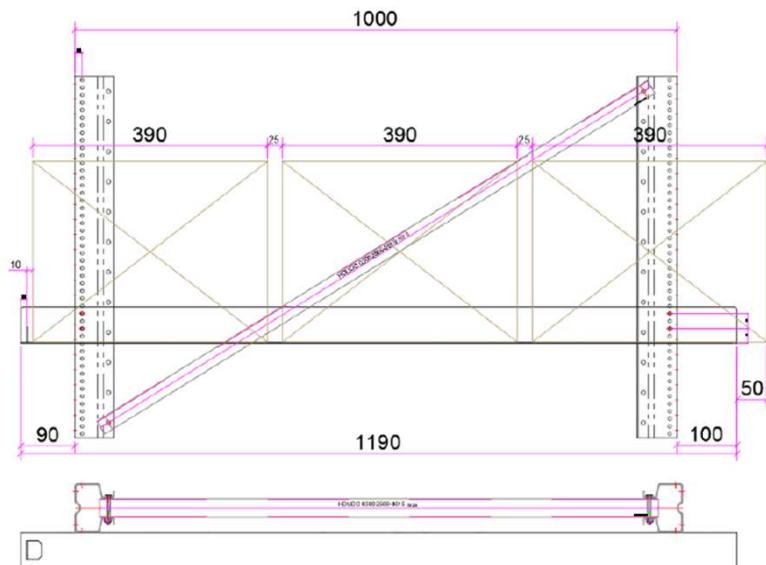
El parámetro "a" de apoyo mínimo es 5mm pero puede ser mayor 20mm

Parametrizacion cargas: caja rígida o flexible

Parametrizacion de Combinaciones de carga: ELU-ELS



Parametrizacion numero de cargas en fondo:1 -2-3-4 cajas



Parametrizacion Extracciones de datos

Parametrizacion de Paths extracciones de tensiones-deformaciones-reacciones

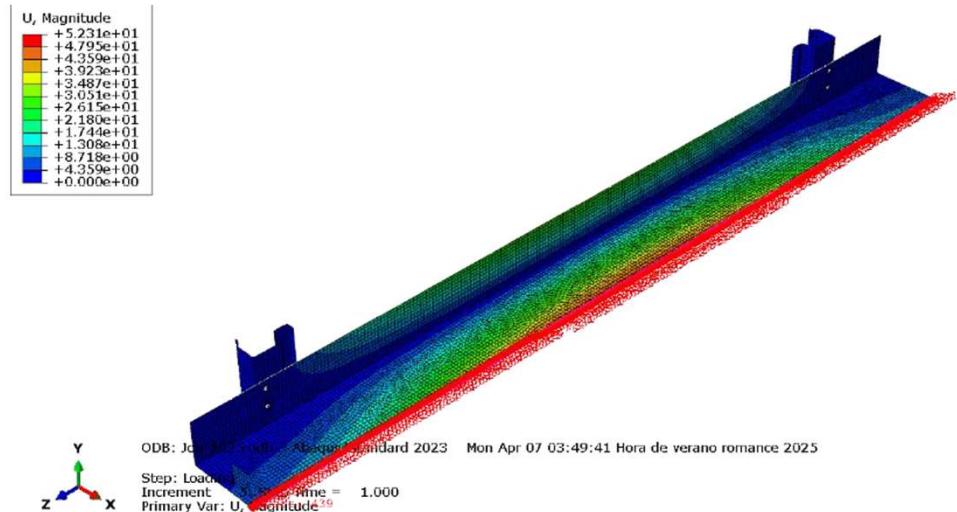


Fig. 40 Ejemplo "Path" extremo

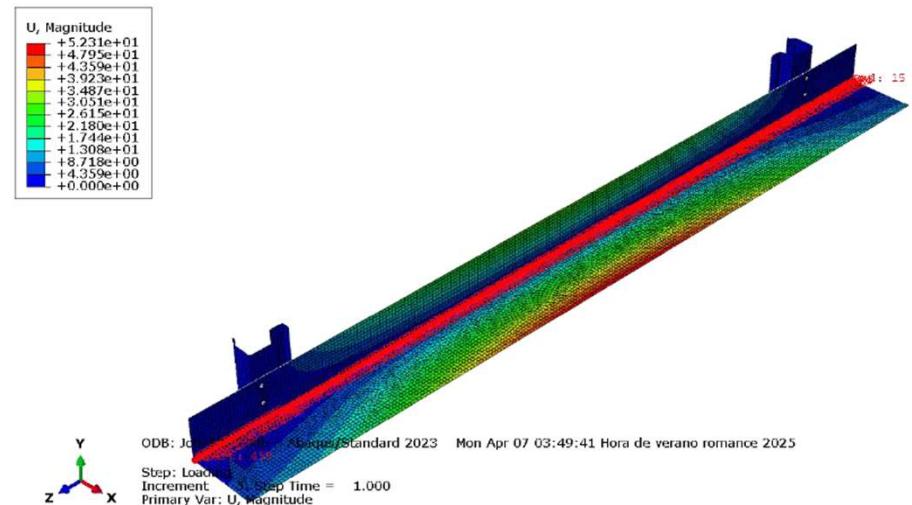
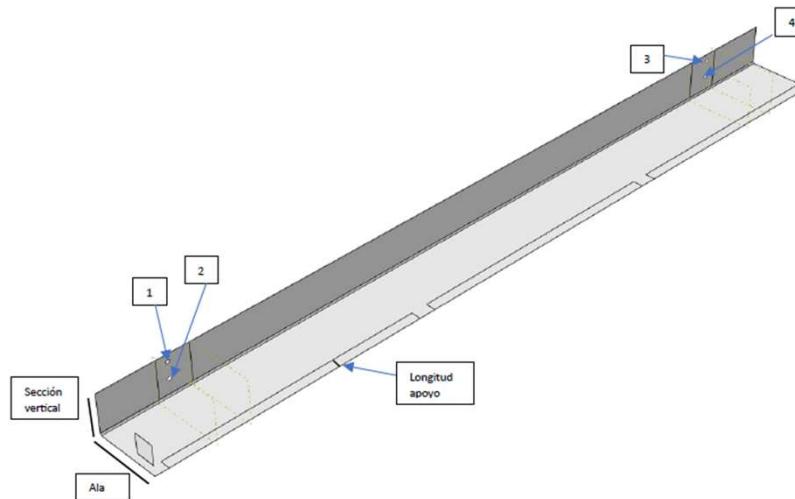
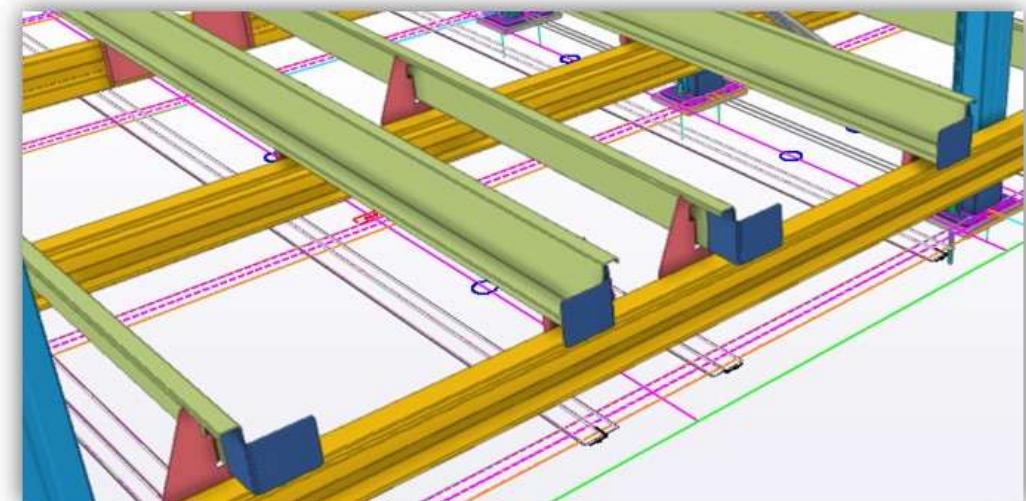
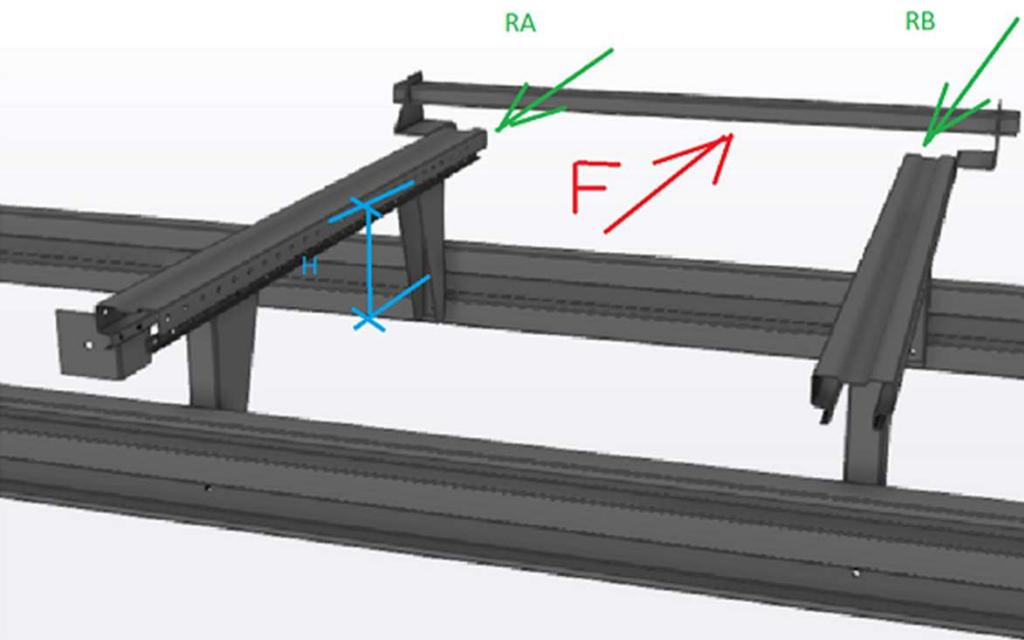


Fig. 41 Ejemplo "Path" pliegue



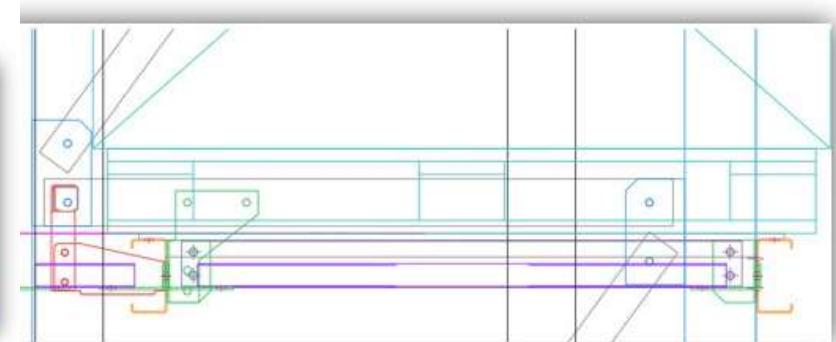
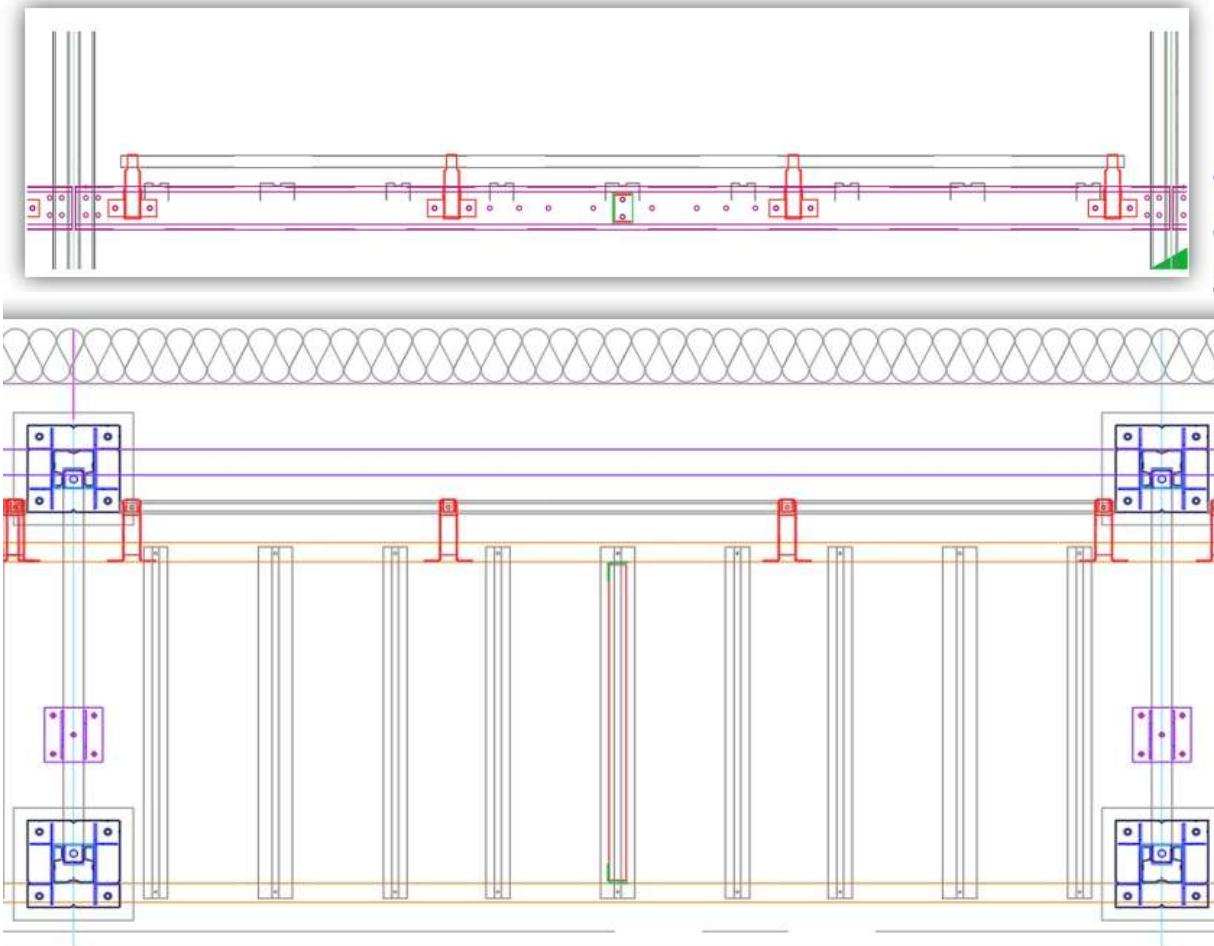
P03
ANALISIS IMPACTO TOPE

Analisis de impacto en diferentes topes según soluciones



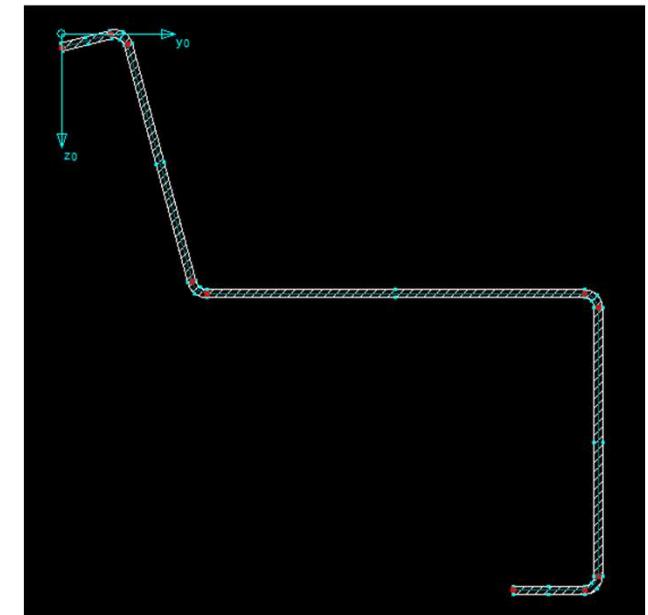
P03
ANALISIS IMPACTO TOPE

Analisis de impacto en diferentes topes según soluciones



P04
VIGA PALETA

Analisis FEM de secciones Viga Paleta



 DS SIMULIA
ABAQUS

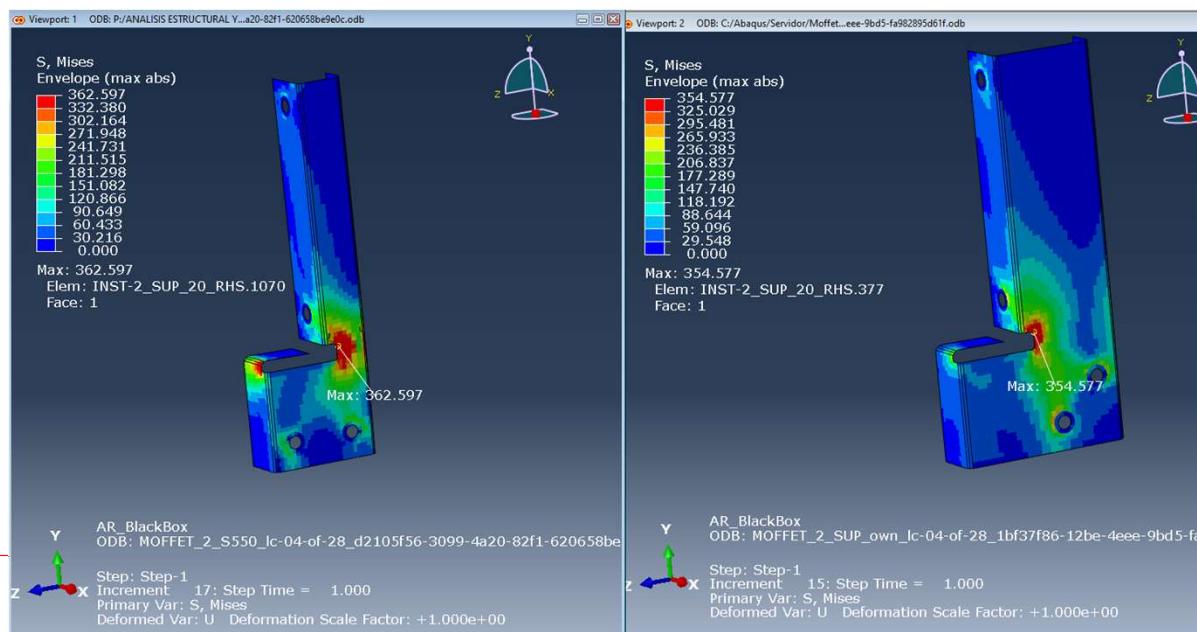
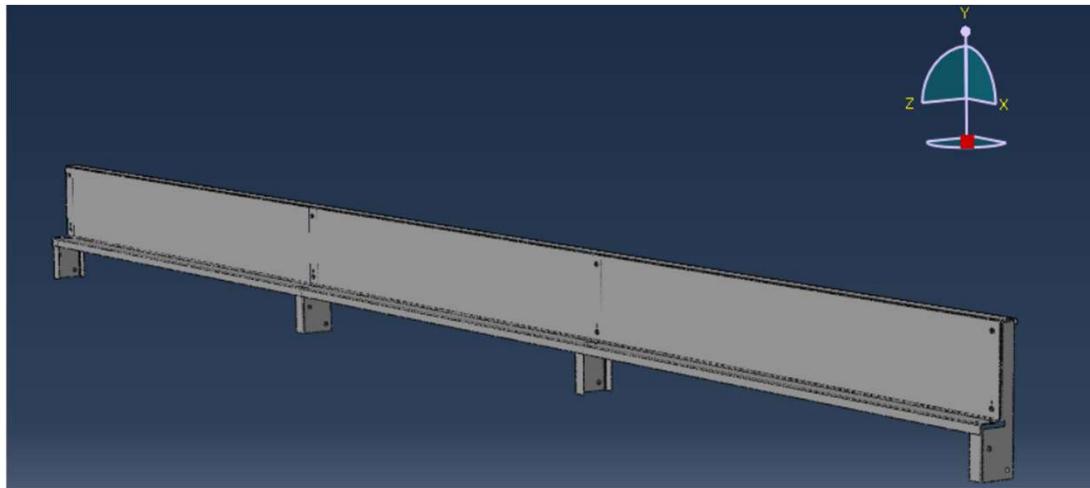
P05
SOPORTES RAIL SHUTTLE

Analisis de diferentes soluciones de SOPORTES DE RAIL SHUTTLE



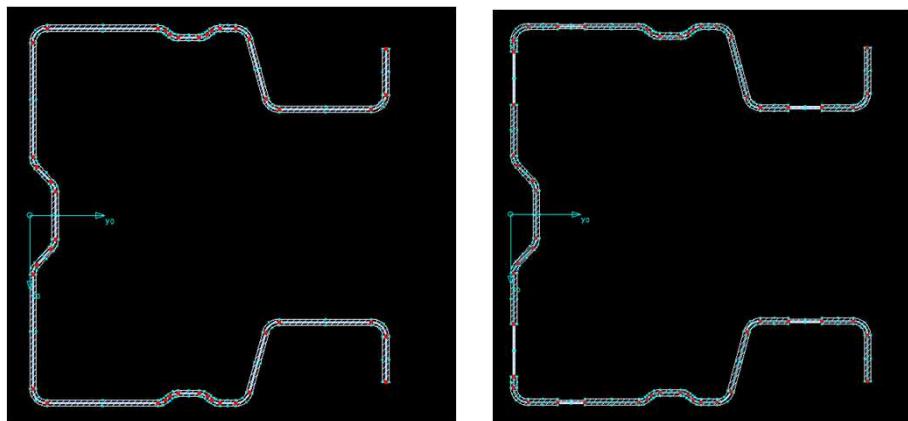
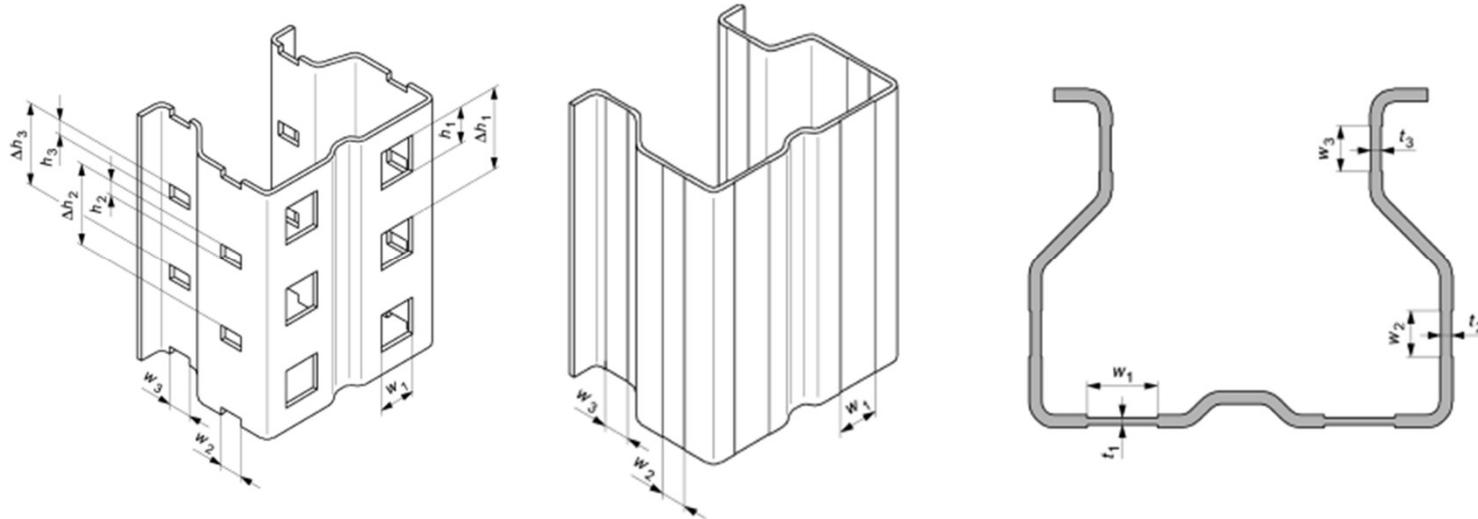
P05 SOPORTES RAIL SHUTTLE

Analisis de diferentes soluciones de SOPORTES DE RAIL SHUTTLE



P06
Parametrization PUNTAL

Parametrization of pinnate sections in RSECTION (RFEM 6)

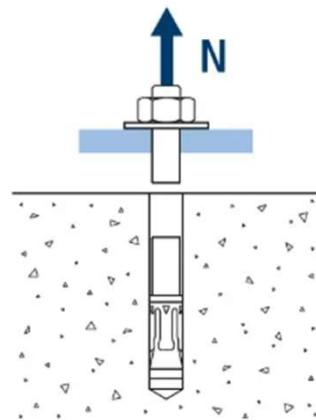


P07
BBDD Anclajes

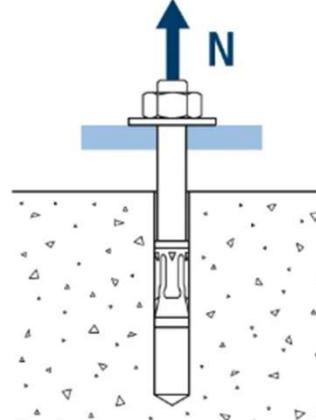
Métodos de fallo de anclajes al suelo (mecánicos y químicos) Hilti-Index-Fischer



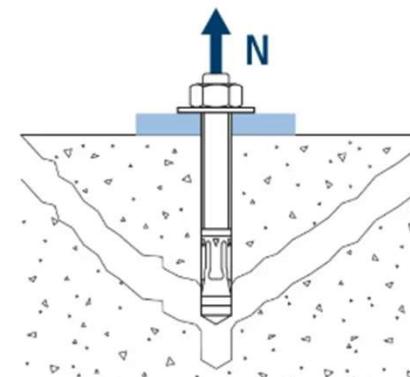
Acero



Extraccion



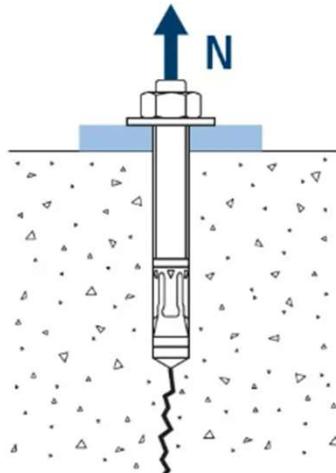
Cono
hormigon



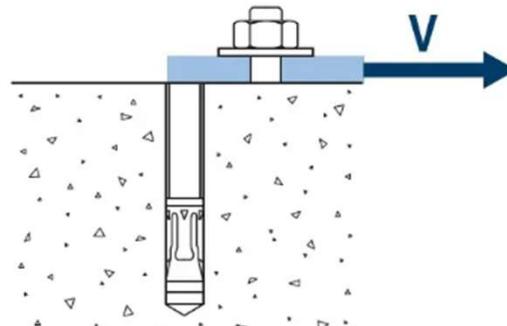
Extraccion
+ cono



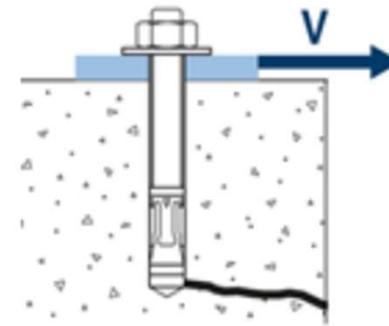
Fisuracion



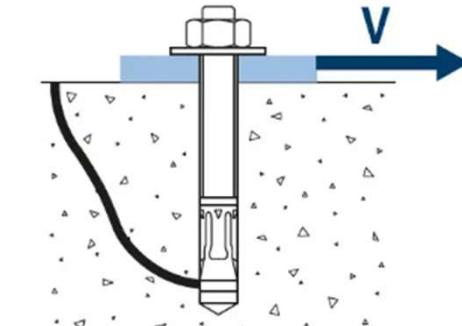
acero



De Borde hormigon



Desconchamiento





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