

Test report No.: 21-00020-CP-PRG-00
Manufacturer: Freizeit-Wittke-GmbH, Germany
Type: FASP-506-507



Test report

No.: 21-00020-CP-PRG-00

Test of FASP-506-507
with regard to Directive / Regulation (EC/EU) / Regulation No. **ECE R14**
taking into consideration amendment No. 07, **Supplement 8**

Approval subject:
Strength of safety belt anchorages

Approval status		
<input type="checkbox"/>	Granting of a type approval	N/A
<input type="checkbox"/>	Extension/correction to type approval no.	N/A

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I. General

Make: FREIZEIT-WITTKE

Type: FASP-506-507

Commercial name(s) (if available): Divano, FASP-506-507

Category of vehicle: M1, N1

Name and address of manufacturer: Freizeit-Wittke-GmbH
Ernststraße 12
13509 Berlin
Germany

Name and address of representative: N/A

Reference number of information folder: FREIZEIT-WITTKE/01/2021-00

Date of issue of information folder: 08.04.2021

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II. Test results

Refer to the Annex

III. Enclosures

Information Folder

IV. Statement of conformity

The mentioned information folder and the type described therein are in accordance with the test basis mentioned above. The worst-case was selected in accordance with document "Requirements for Test Reports (AS-PB-T-02)".

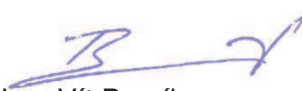
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Genehmigungsbehörde <i>Approval authority</i>	Land <i>Country</i>	Registriernummer <i>Registration number</i>
Kraftfahrt-Bundesamt (KBA)	Deutschland <i>Germany</i>	KBA-P 00100-10
Vehicle Certification Agency (VCA)	Vereinigtes Königreich <i>United Kingdom</i>	VCA-TS-006
Approval Authority of the Netherlands (RDW)	Niederlande <i>The Netherlands</i>	RDWT-082-xx
National Standards Authority of Ireland (NSAI)	Irland <i>Ireland</i>	Technical Service Number: 49
Société Nationale de Certification et d'Homologation s.à r.l.	Luxemburg <i>Luxembourg</i>	13/B(g)

Munich, 10.05.2021




Ing. Vít Bursík
Authorized signatory

Annex

Test report

1. Technical data of the test sample

- 1.1. Test object: Divano bench, FASP-506-507 installed on the vehicle floor via fixation plate and under-floor reinforcement.
 Details see below and in manufacturer's information document.
- 1.1.1. Location and arrangement: Seats can be mounted at the specified position in the vehicle, provided in 2nd row there are not more than 2 seats.
- 1.1.2. Means of identification of type: N/A
- 1.1.3. Number of seating positions: 1st row of seats:
 No changes in 2nd stage of production
 2nd row of seats:
 Max 2 seats
- 1.1.4. Type of bodywork using the codes set out in Part C of Annex II of Directive 2007/46/EC or in Part C of Annex I to Regulation (EU) 2018/858: All possible
- 1.1.5. Table of vehicles types for which are test results valid:

Manufacturer	Commercial description / Type	Wheelbase
Daimler / Mercedes-Benz	Sprinter (906, 907)	3250, 3665, 4325
	Sprinter (910)	3259, 3924
	Vito/Viano/V-klasse (639, 639/2, 639/4)	3200, 3430
VW	Crafter (2E_)	3250, 3665, 4325
	Crafter (SYN__ e.g. SYN1E, SYN2E, SYN2Z)	3640, 4490
	T5 (7H_, 7E_)	3000, 3400
	T6 (7H_, 7E_, 7J_)	3000, 3400
Citroen	Jumper (Y)	3000, 3450, 4035
	Jumpy (X)	3000, 3122
	Jumpy (2016)	2925, 3275
	SpaceTourer	2925, 3275

1.1.5. Table of vehicles types for which are test results valid:

Manufacturer	Commercial description / Type	Wheelbase
Peugeot	Boxer (Y)	3000, 3450, 4035
	Expert (VF3_)	3000, 3122
	Expert (2016)	2925, 3275
	Traveller	2925, 3275
Fiat	Ducato (250)	3000, 3450, 4035
	Scudo (270)	3000,3122
	Talento (FJL, FFL)	3098, 3498
Opel	Movano (MR, MS, MW)	3182, 3682, 4332
	Vivaro (F7)	3098, 3498
	Vivaro	2925, 3275
Renault	Master (FV, MA)	3182, 3682, 4332
	Trafic (FL, L)	3098, 3498
	Trafic 2014 (JL, L)	3098, 3498
Renault Truck	Master (MF)	3182, 3682, 4332
Ford	Transit (FA_, FD_)	2933, 3300, 3750
	Transit (FC_)	3300, 3750, 3954
	Transit Custom (FA_, FC_)	2933, 3300
	Transit Connect (PU2)	2662, 3062
Iveco	Daily (IS_)	3000, 3300, 3520, 3950, 4100, 4750
Nissan	NV200	2725
	NV300	3098, 3498
	NV400	3182, 3682, 4332
Toyota	Pro Ace, Pro Ace Verso (2016)	2925, 3275
MAN	TGE (SYN_ e.g. SYN1E, SYN2E, SYN2Z)	3640, 4490
LDV	V80, Maxus (SV6C)	3100, 3850
	V90, Deliver 9, E Deliver 9	3000, 3366, 3760
Hyundai	H350 (EU(V))	3435, 3670
RAM (Dodge)	ProMaster	3000, 3450, 4035

1.1.6. Divano bench, FASP-506-507 on fixation plate in the vehicle.

Seat manufacturer	Seat type	Category seats	Mass of the heaviest configuration (seat + legs/base)
F.A.S.P.	Divano, FASP-506-507	M1, N1	90 kg

For All possible combinations of legs (Bases) with seats and design details see manufacturer's information document.

2. Test conditions

- 2.1. Test procedures used (ECE R14):
 Strength test of safety belt anchorages according to ECE R 14.07
- 2.2. Measuring and test equipment:
- Digital ballance
 - Electrohydraulic test device and respective fixtures
 - Force measuring chain with load cells
 - Interface 1210AF
 - Tape rule
- 2.3. Test track or site: OKB testing laboratory, Bukowiec, Poland, FAKT S.r.l, Rezzato (BS), Italy.

3. Test results

The below mentioned test results cover all variants including the maximum mass stated in the enclosed information document (seat, leg design, seat-to-vehicle anchorages, seat arrangement, floor to vehicle attachment).

Geometrical requirements are fulfilled; all the seat belts anchorages are provided on- seat.

Production seats test results – safety belts anchorages strength:

- 3.1. First row of seats: N/A
- 3.2. Other row of seats:

Tests of seat belt anchorages and seat to floor attachment.

- 3.2.1. Divano bench, FASP-506-507 (seating positions: 2) on fixation plate in the vehicle.

Forward facing seat

Seat manufacturer	Seat type	Mass of the heaviest configuration (seat + legs/base)	Fulfilling of requirements
F.A.S.P.	Divano, FASP-506-507	90 kg	See Technical protocol. No. IT11/0699-01 See point 3.2.2.

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 Type: FASP-506-507



3.2.2. Divano bench, FASP-506-507 (seating positions: 2) on fixation plate in the vehicle.
 Mass of the heaviest possible single seat configuration covered by the test $m_s = 90$ kg.
 Additional force applied to seat base:
 $F_z = 20 \times m_s \times g$ (N) as relevant for M1 vehicle category.
 Forward facing seat

Type of seat	FASP-506-507 (left seat)	FASP-506-507 (right seat)
Type of leg	-	-
Bodywork (representative/specific)	-	-
Mass of seat/seats	35 (max. 45) kg	35 (max. 45) kg
Required force in upper anchorage point	13 500 N \pm 200 N	13 500 N \pm 200 N
Required force in lower anchorage point	13 500 N \pm 200 N	13 500 N \pm 200 N
Max force in upper anchorage point	13 400 N / > 0,2 s	13 700 N / > 0,2 s
Max. force in lower anchorage point	13 500 N / > 0,2 s	13 400 N / > 0,2 s
Required force inertia	18 000 N	
Inertia force in the seat base	18 700 N / > 0,2 s	
Displacement of upper anchorage point	96 mm	104 mm
Where was applied additional force	CoG	

3.3. Final confirmation

All possible combinations of seats, legs to floor attachment, attachment of floor and vehicles mentioned in manufacturer's information document are covered by above mentioned tests.

Note: Due to use in a special purpose vehicle - Isofix has not been evaluated.

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3.4. Test records

3.4.1. Photos

3.2.2. Divano, FASP-506-507 on fixation plate in the vehicle.

Before test



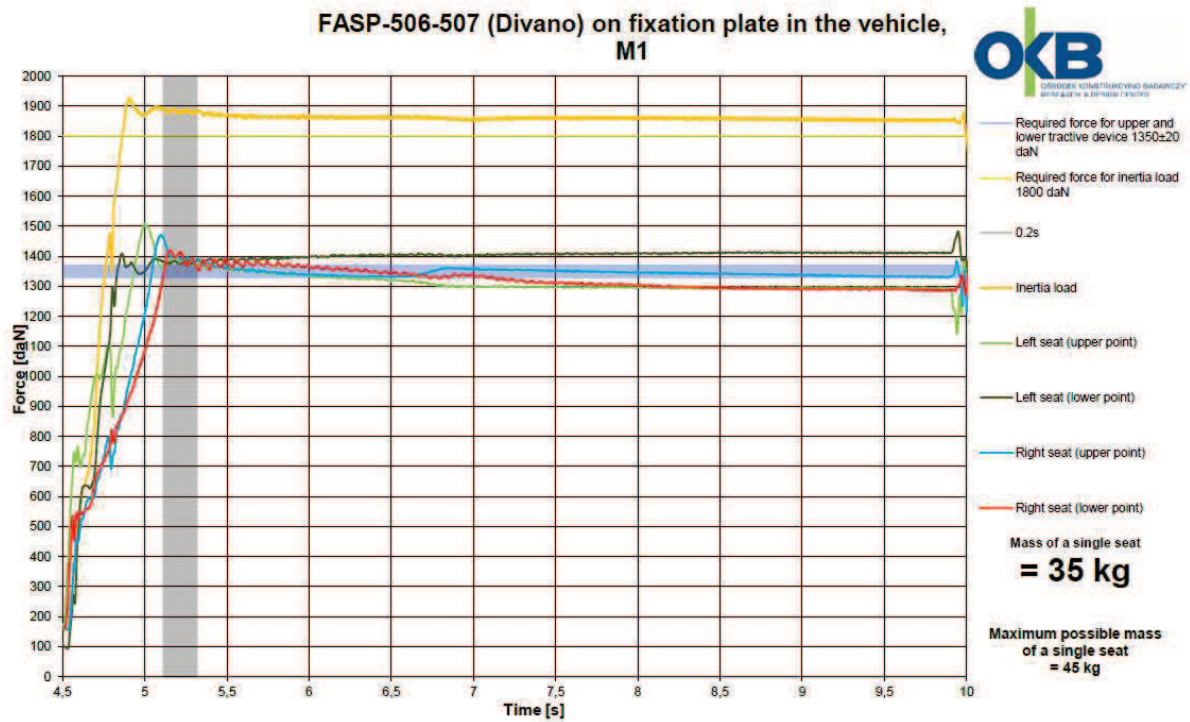
After test



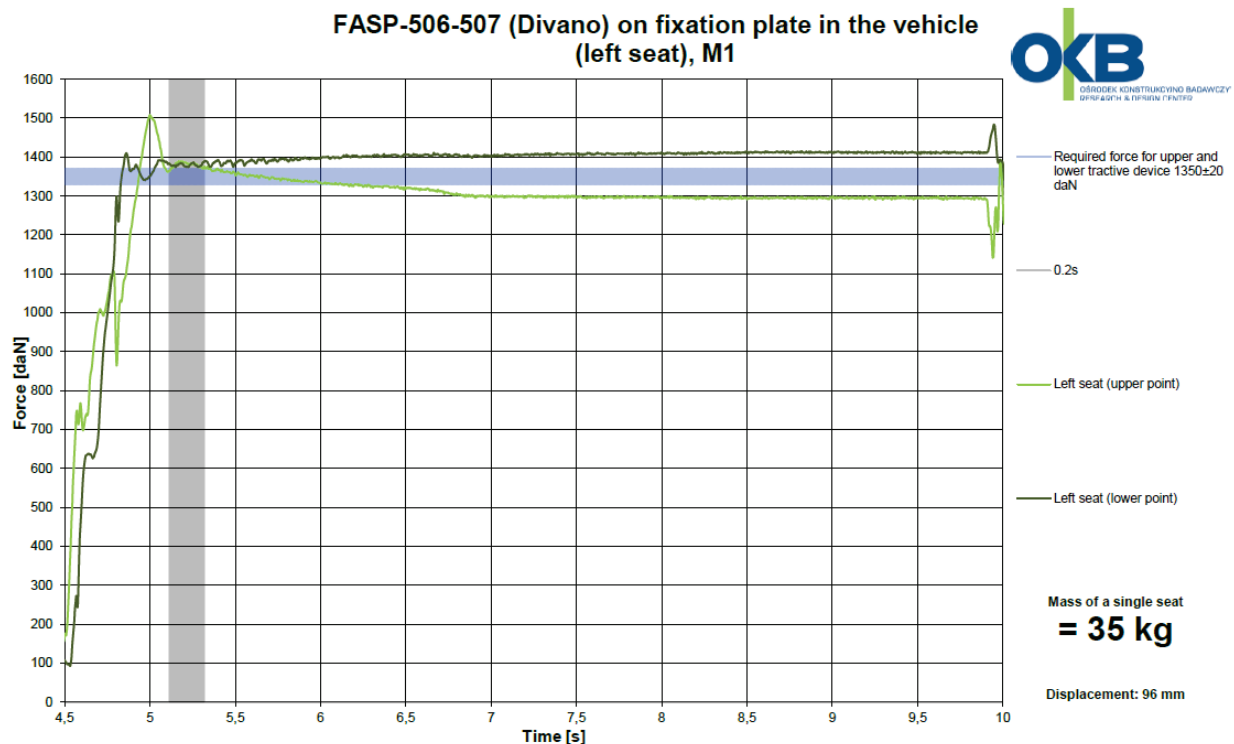
3.4. Test records

3.4.2. Diagrams

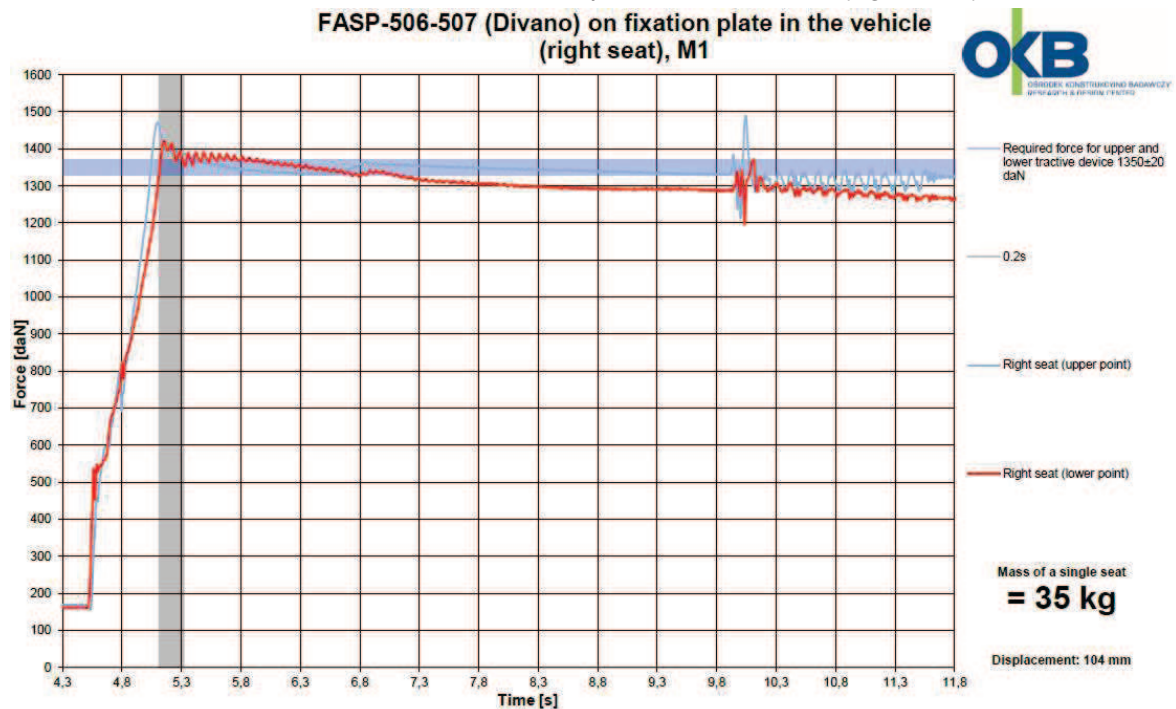
3.2.2. Divano, FASP-506-507 on fixation plate in the vehicle.



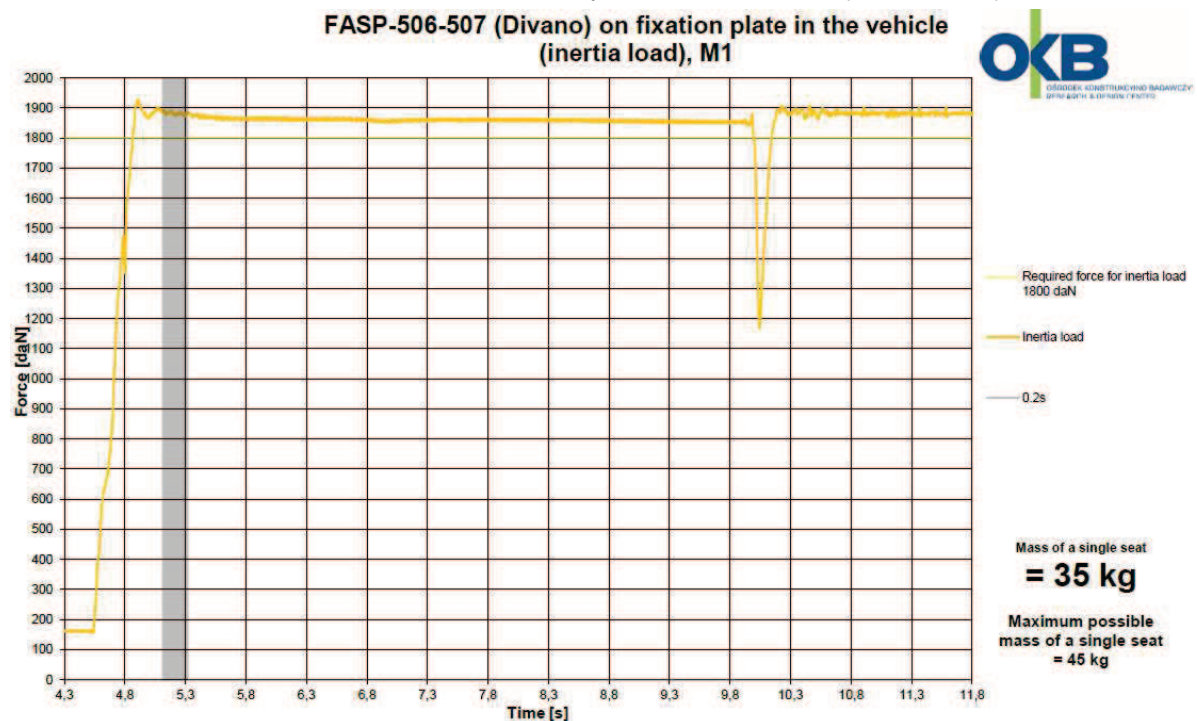
3.2.2. Divano, FASP-506-507 on fixation plate in the vehicle (left seat).



3.2.2. Divano, FASP-506-507 on fixation plate in the vehicle (right seat).



3.2.2. Divano, FASP-506-507 on fixation plate in the vehicle (inertia load).



4. Place and date of testing

16. 12. 2019

OKB laboratory, Bukowiec, Poland

*INFORMATION FOLDER / DOCUMENT:
FREIZEIT-WITTKE/01/2021-00*

PURSUANT TO UN/ECE REGULATIONS
No. 14-07
“UNIFORM PROVISIONS CONCERNING THE APPROVAL
OF VEHICLES WITH REGARD TO SAFETY-BELT
ANCHORAGES“
(as last amended)

FOR THE SEAT *FREIZEIT-WITTKE*
TYPE *FASP-506-507*



Pawel Wittke
Executive Director

Total number of pages: 39
Date of issue: 08.04.2021



		Date: 08.04.2021
	<i>FREIZEIT-WITTKE/01/2021-00</i>	Page / pages: 1/39

List of documentation and supplements

Confirmation 3

0. General..... 4

1. General construction characteristics of the vehicle 4

9. Bodywork..... 4

List of enclosures

Table of vehicles types Enclosure 1

Drawings of seat and seat belt anchorages Enclosure 2

Seat anchorages Enclosure 3



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Confirmation

We hereby declare that the vehicle specimens submitted for this approval test have been manufactured and assembled on conditions of ordinary mass production and that they are compatible with the enclosed documentation.

Date of issue: 8th April 2021

A handwritten signature in blue ink, appearing to read 'P. Wittke', is written over a horizontal dotted line.

Pawel Wittke
Executive Director



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0. GENERAL
- 0.1 Make (trade name of manufacturer): FREIZEIT-WITTKE
- 0.2 Type: FASP-506-507
- 0.2.1 Commercial name(s) (if available): Divano, FASP-506-507
- 0.2.2 Dedicated for vehicle(s): See Enclosure 1
- 0.3 Means of identification of type: Letter and digits
- 0.3.1 Location of that marking: Near statutory plate
- 0.4 Category of vehicle: M1, N1
- 0.5 Name and address of manufacturer: Freizeit-Wittke-GmbH
Ernststraße 12
13509 Berlin
Germany
- 0.8 Name(s) and address(es) of assembly plant(s): N/A
1. GENERAL CONSTRUCTION CHARACTERISTICS OF THE VEHICLE
- 1.1 Photographs and/or drawings of a representative vehicle: See Enclosure 1
9. BODYWORK
- 9.1 Type of bodywork using the codes set out in Part C of Annex II of Directive 2007/46/EC or in Part C of Annex I to Regulation (EU) 2018/858: All possible
- 9.10 Interior arrangement
- 9.10.3 Seats
- 9.10.3.1 Number of seating positions: 2
- 9.10.3.1.1 Location and arrangement: Any position in the vehicle
- 9.10.3.2 Seat(s) designated for use only when the vehicle is stationary: N/A
- 9.10.3.3 Mass: FASP-506-507 – 90 kg – mass of the heaviest configuration



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9.10.3.4	Characteristics: for seats not type-approved as components, description and drawings of	
9.10.3.4.1	The seats and their anchorages:	See Enclosure 2, Enclosure 3
9.10.3.4.2	The adjustment system:	See Enclosures
9.10.3.4.3	The displacement and locking systems:	See Enclosures
9.10.3.4.4	The seat-belt anchorages (if incorporated in the seat structure):	see Enclosure 2
9.10.3.4.5	The parts of the vehicle used as anchorages:	See Enclosure 3
9.10.3.5	Coordinates or drawing of the R-point	
9.10.3.5.1	Driver's seat:	N/A
9.10.3.5.2	All other seating positions:	See Enclosure 2
9.10.3.6	Design torso angle	
9.10.3.6.1	Driver's seat:	N/A
9.10.3.6.2	All other seating positions:	See Enclosures
9.10.3.7	Range of seat adjustment	
9.10.3.7.1	Driver's seat:	N/A
9.10.3.7.2	All other seating positions:	See Enclosures
9.10.4.	Head restraints	
9.10.4.1.	Type(s) of head restraints:	adjustable
9.10.4.2.	Type-approval number(s), if available:	N/A
9.13	Safety belt anchorages	
9.13.1	Photographs and/or drawings of the bodywork showing the position and dimensions of the actual and effective anchorages including the R-points:	See Enclosures
9.13.2	Drawings of the belt anchorages and parts of the vehicle structure where they are attached (with the material indication):	See Enclosure 2



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9.13.3 Designation of the types of safety belt authorised for fitting to the anchorages with which the vehicle is equipped:

	Anchorage location	
	Vehicle structure	Seat structure
First row of seats	N/A	N/A

Other rows of seats			Anchorage location	
			Vehicle structure	Seat structure
Left-hand seat	Lower anchorages	outboard	--	Ar
		inboard	--	Ar
	Upper anchorages		--	Ar
Right-hand seat	Lower anchorages	outboard	--	Ar
		inboard	--	Ar
	Upper anchorages		--	Ar

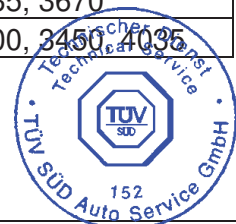
9.13.4 Description of a particular type of safety belt where an anchorage is located in the seat backrest or incorporates an energy dissipating device: Ar4m



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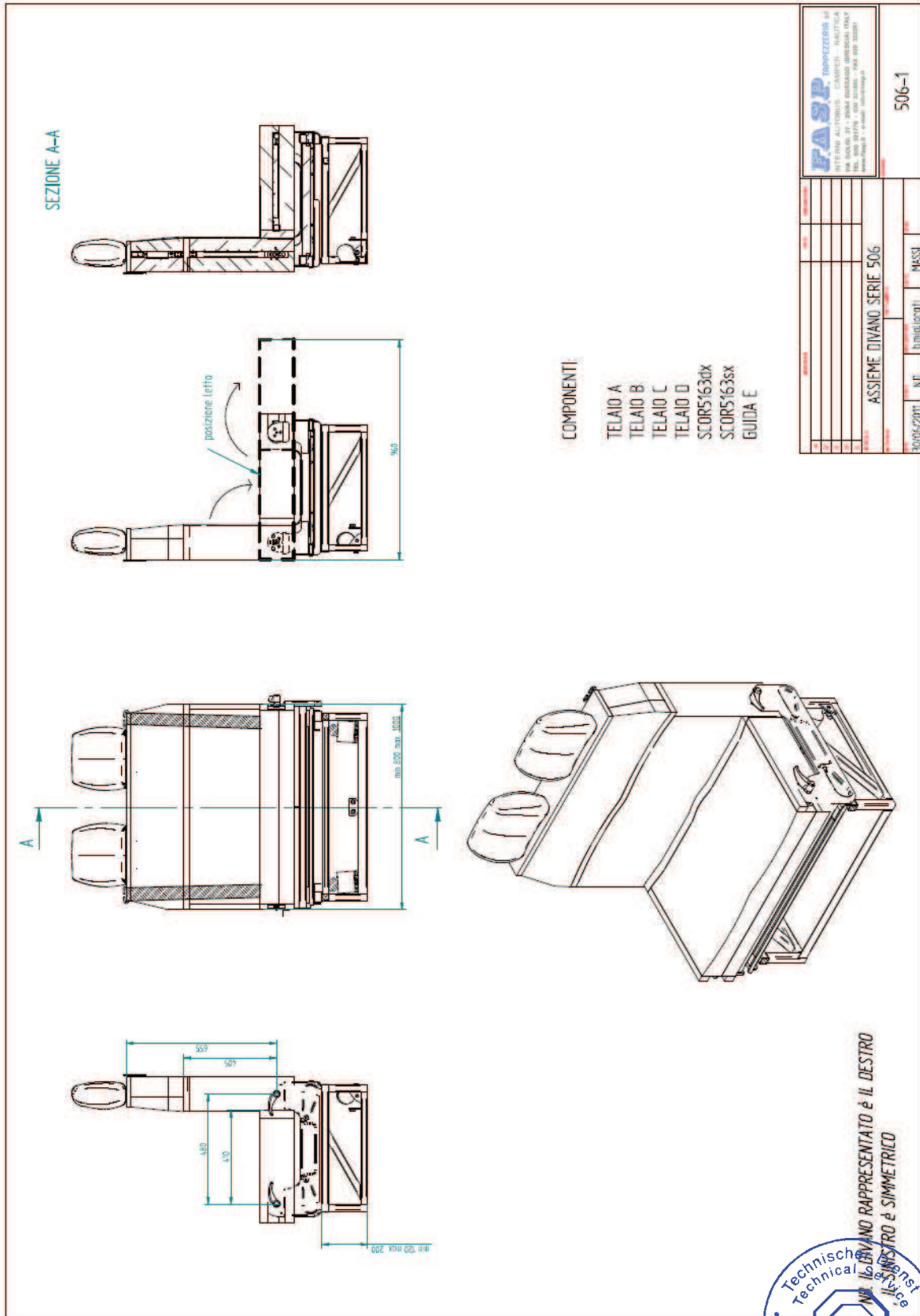
Enclosure 1: TABLE OF VEHICLES TYPES

Manufacturer	Commercial description / Type	Wheelbase
Daimler / Mercedes-Benz	Sprinter (906, 907)	3250, 3665, 4325
	Sprinter (910)	3259, 3924
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	T5 (7H_, 7E_)	3000, 3400
	T6 (7H_, 7E_, 7J_)	3000, 3400
Citroen	Jumper (Y)	3000, 3450, 4035
	Jumpy (X)	3000, 3122
	Jumpy (2016)	2925, 3275
	SpaceTourer	2925, 3275
Peugeot	Boxer (Y)	3000, 3450, 4035
	Expert (VF3_)	3000, 3122
	Expert (2016)	2925, 3275
	Traveller	2925, 3275
Fiat	Ducato (250)	3000, 3450, 4035
	Scudo (270)	3000,3122
	Talento (FJL, FFL)	3098, 3498
Opel	Movano (MR, MS, MW)	3182, 3682, 4332
	Vivaro (F7)	3098, 3498
	Vivaro	2925, 3275
Renault	Master (FV, MA)	3182, 3682, 4332
	Trafic (FL, L)	3098, 3498
	Trafic 2014 (JL, L)	3098, 3498
Renault Truck	Master (MF)	3182, 3682, 4332
Ford	Transit (FA_, FD_)	2933, 3300, 3750
	Transit (FC_)	3300, 3750, 3954
	Transit Custom (FA_, FC_)	2933, 3300
	Transit Connect (PU2)	2662, 3062
Iveco	Daily (IS_)	3000, 3300, 3520, 3950, 4100, 4750
Nissan	NV200	2725
	NV300	3098, 3498
	NV400	3182, 3682, 4332
Toyota	Pro Ace, Pro Ace Verso (2016)	2925, 3275
MAN	TGE (SYN__ e.g. SYN1E, SYN2E, SYN2Z)	3640, 4490
LDV	V80, Maxus (SV6C)	3100, 3850
	V90, Deliver 9, E Deliver 9	3000, 3366, 3760
Hyundai	H350 (EU(V))	3435, 3670
RAM (Dodge)	ProMaster	3000, 3450, 4035



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Enclosure 2: DRAWINGS OF SEATS AND SEATBELTS ANCHORAGES



SEZIONE A-A

posizione letto


940

A

A

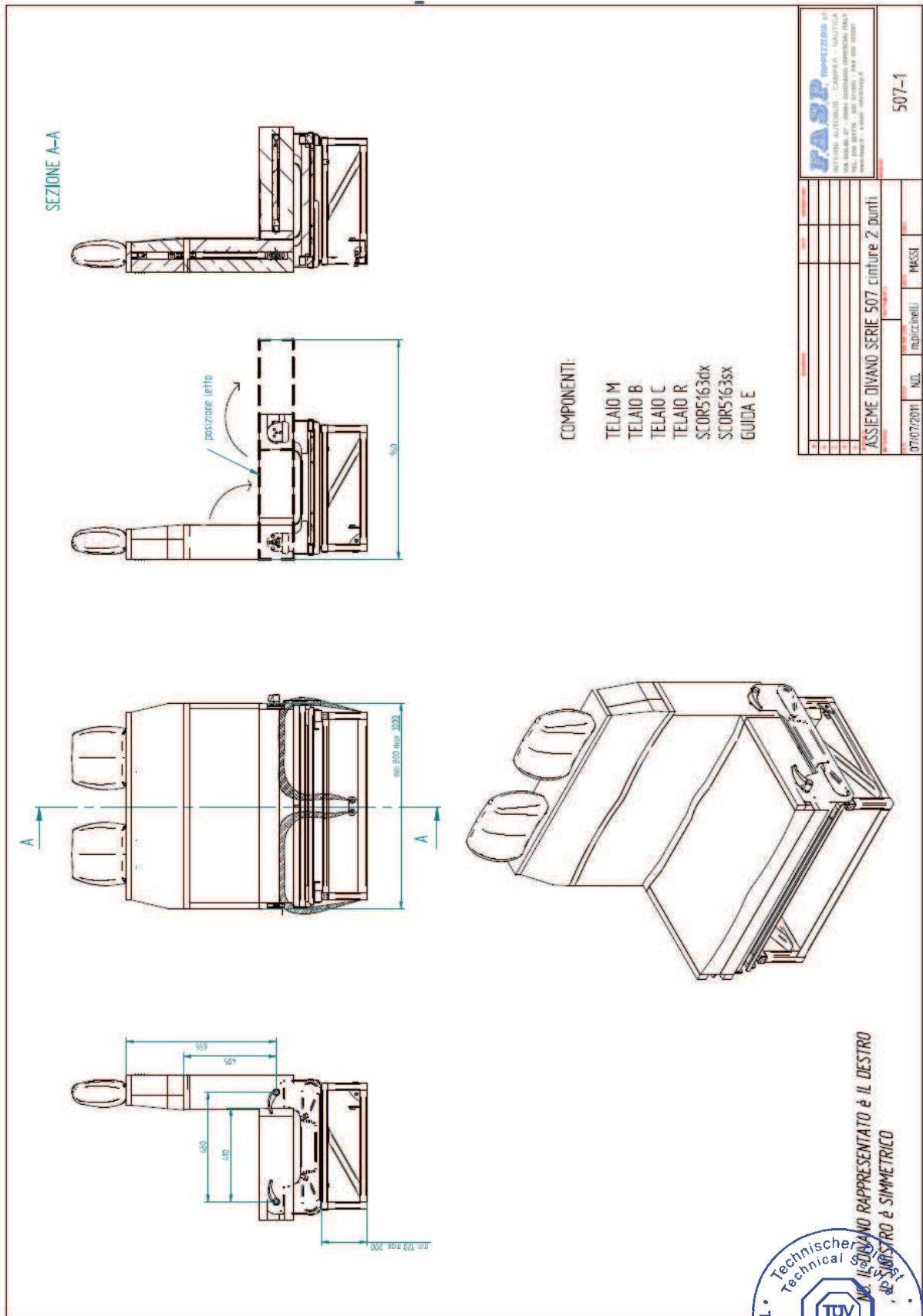
559
567
1487
1410
607
Rif. 020 max. 209

COMPONENTI:
TELAIO A
TELAIO B
TELAIO C
TELAIO D
SCOR51630X
SCOR51635X
GUIDA E

 FAS FREIZEITWITTKE SYSTEME AUTOMOBILI CAMPER - NAUTICA VIA MOGGI 17 - 39044 GÖSSALDO (SOUTH TYROL) - ITALY WWW.FREIZEITWITTKE.IT		506-1
ASSIEME DIVANO SERIE 506		
BO095/2011	N.F.	MKSS3

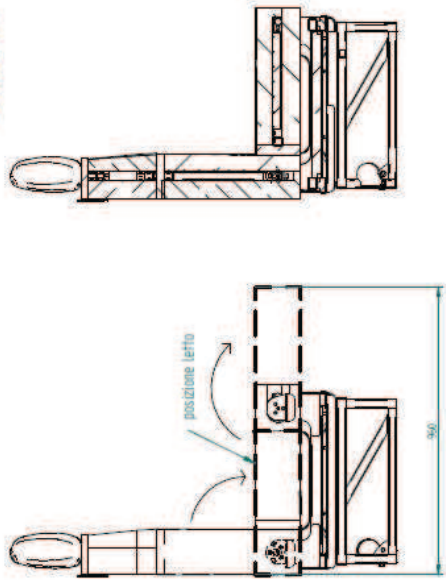
Il presente disegno rappresenta il DESTRO e SINISTRO e SIMMETRICO

Technische Zeichnung
TÜV SÜD Auto Service GmbH
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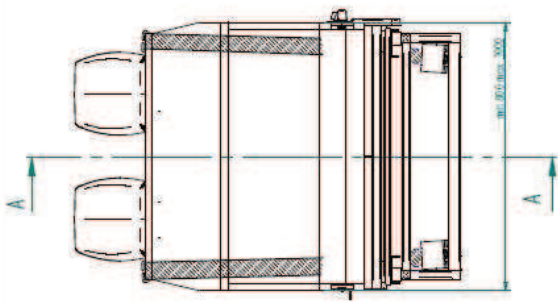
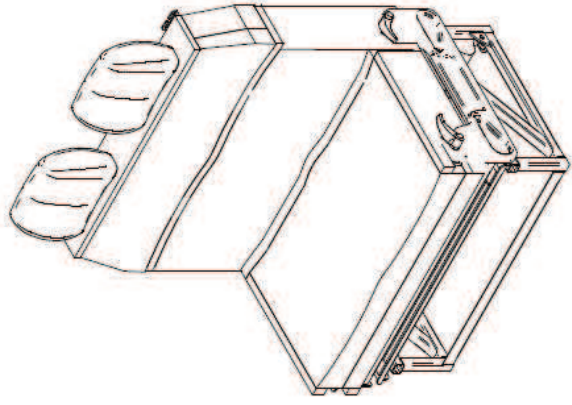
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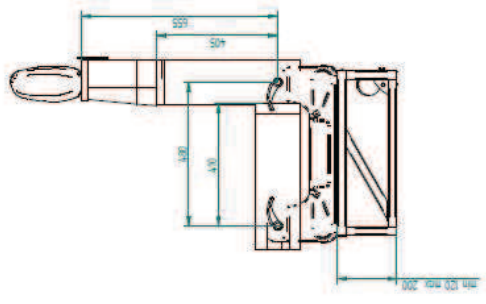
SEZIONE A-A




COMPONENTI:


- TELAIO A, opt. Adx rev. 1
- TELAIO B
- TELAIO C opt. C2
- TELAIO D opt. Ddx rev. 1
- SCORSI 163dx
- SCORSI 163sx
- GUIDA E

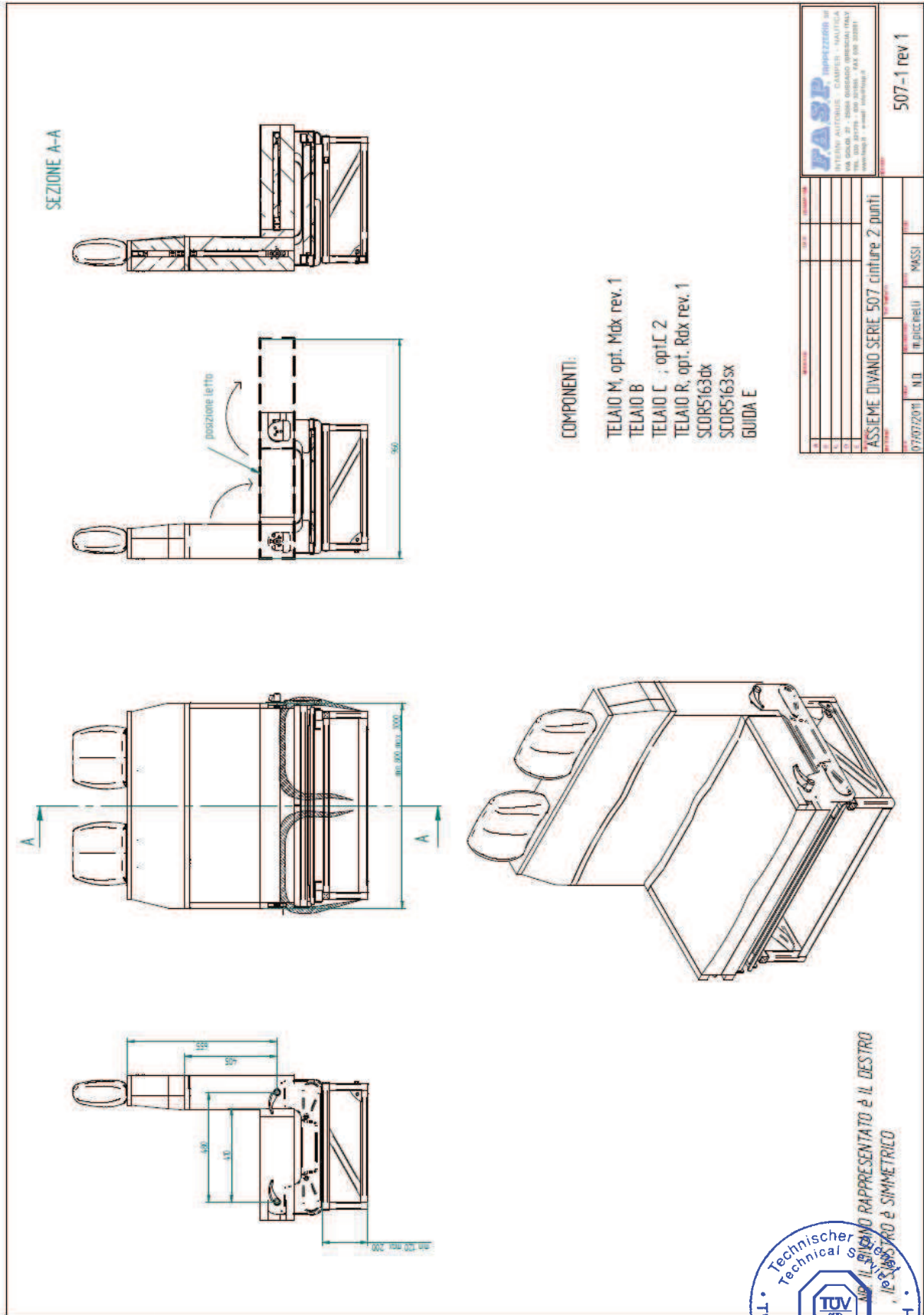





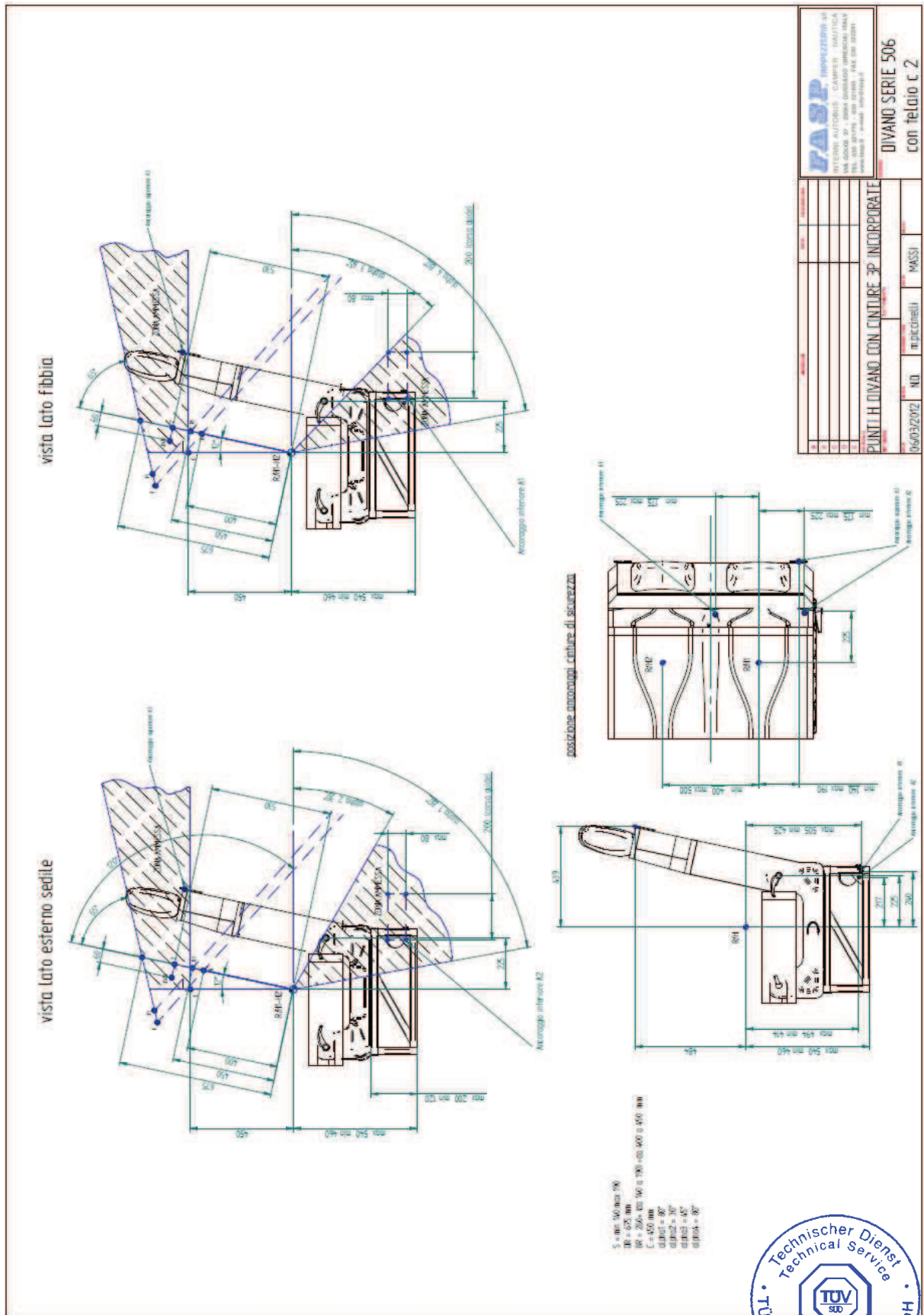
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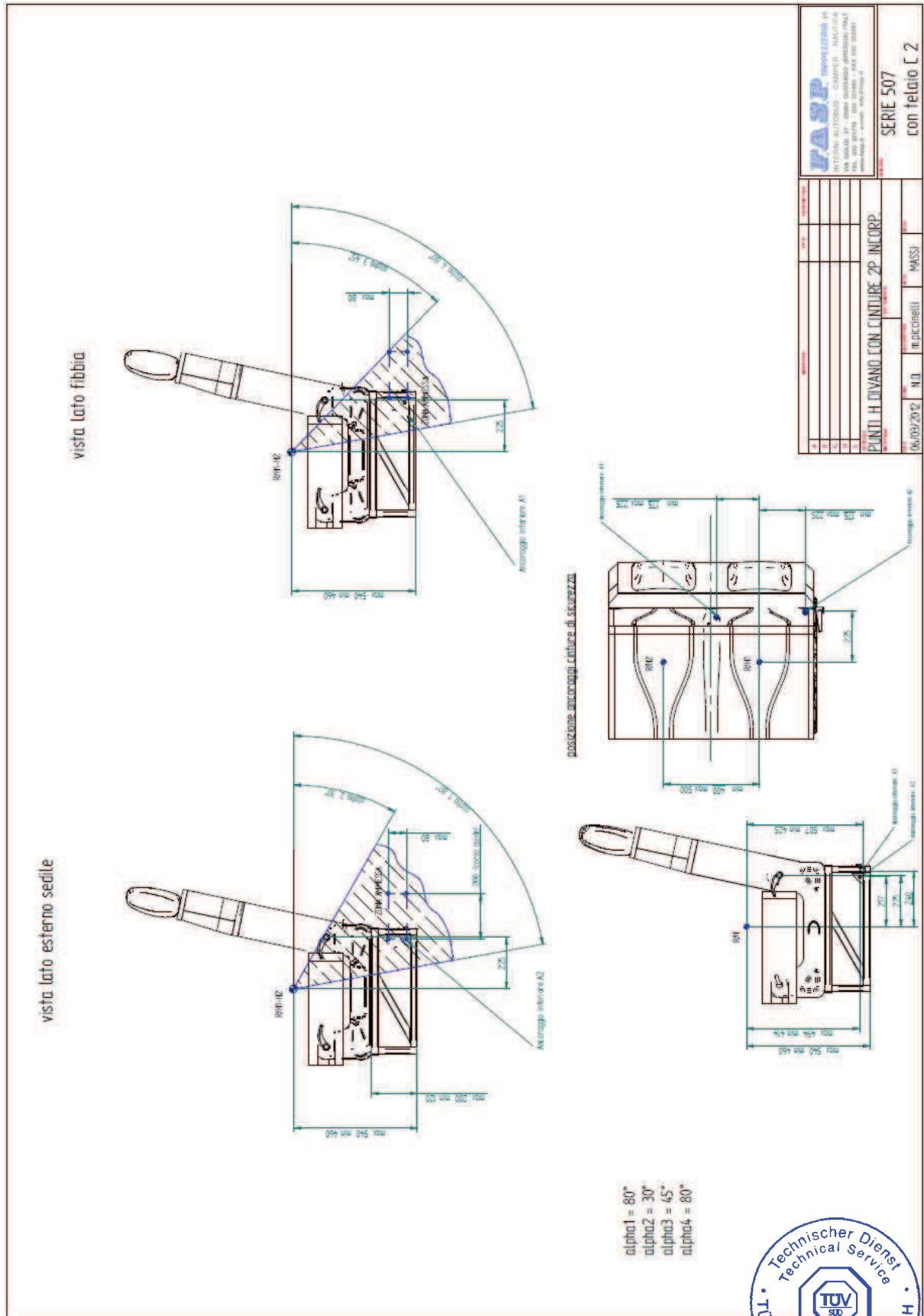
		506-1 rev. 1
	ASSIEME DIVANO SERIE 506	MASSI
30/06/2011	N. 3	Modificati



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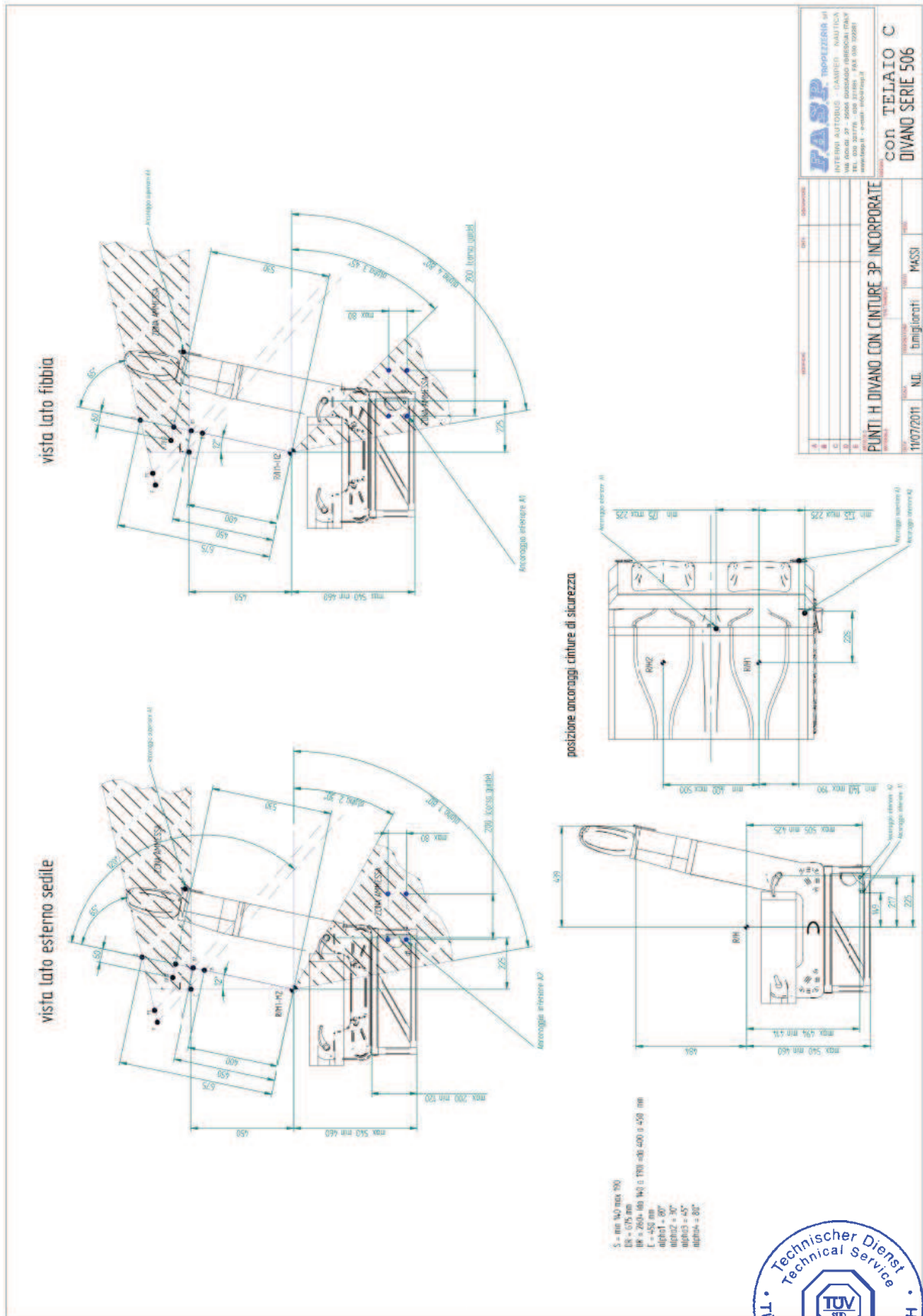


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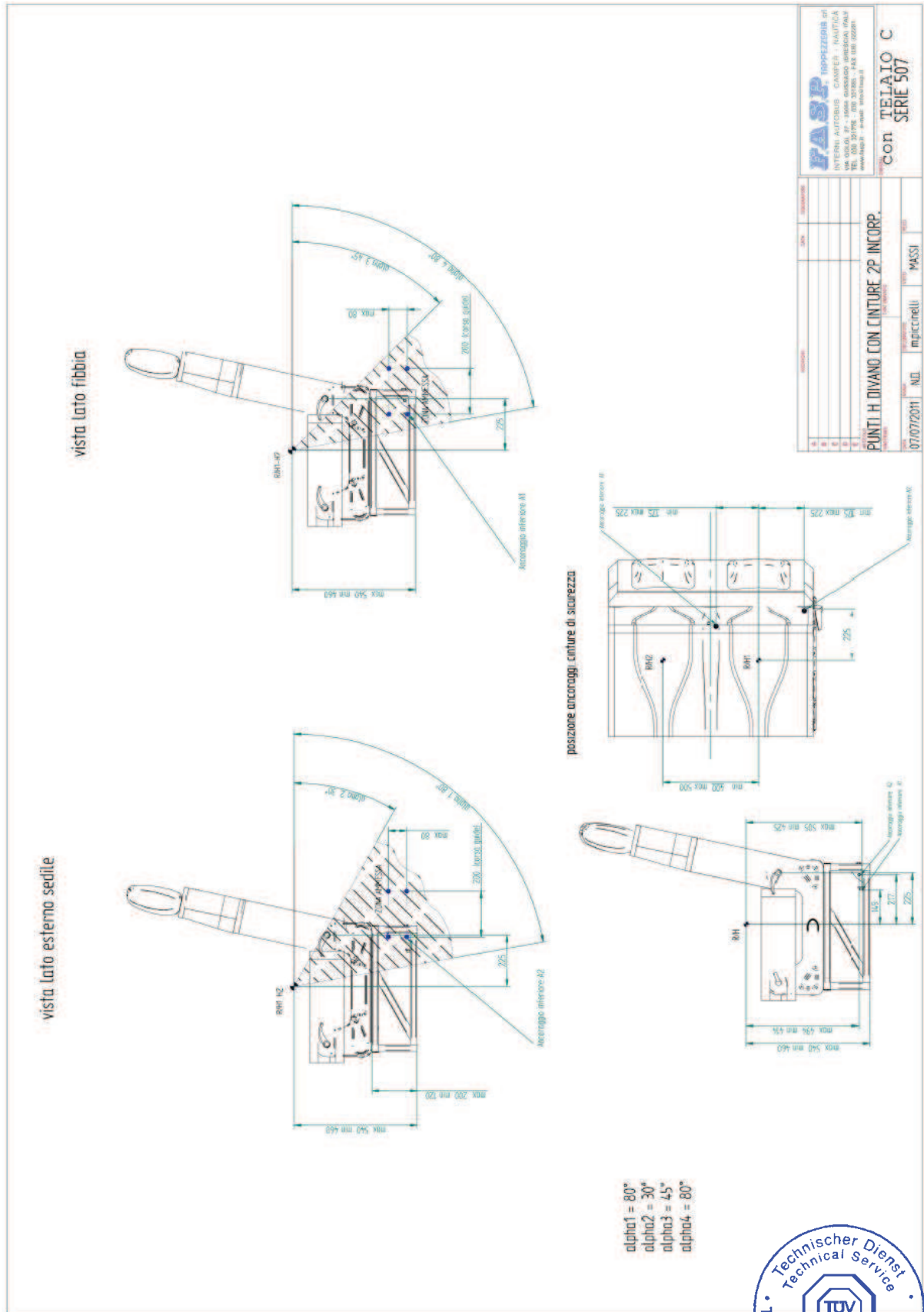


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PUNTI H JOVANO CON CINTURE 2P INCORP.			
06/09/2012	N.I.	M. Piccinelli	MASSI

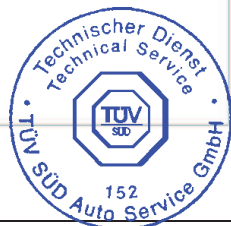




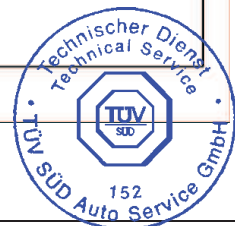
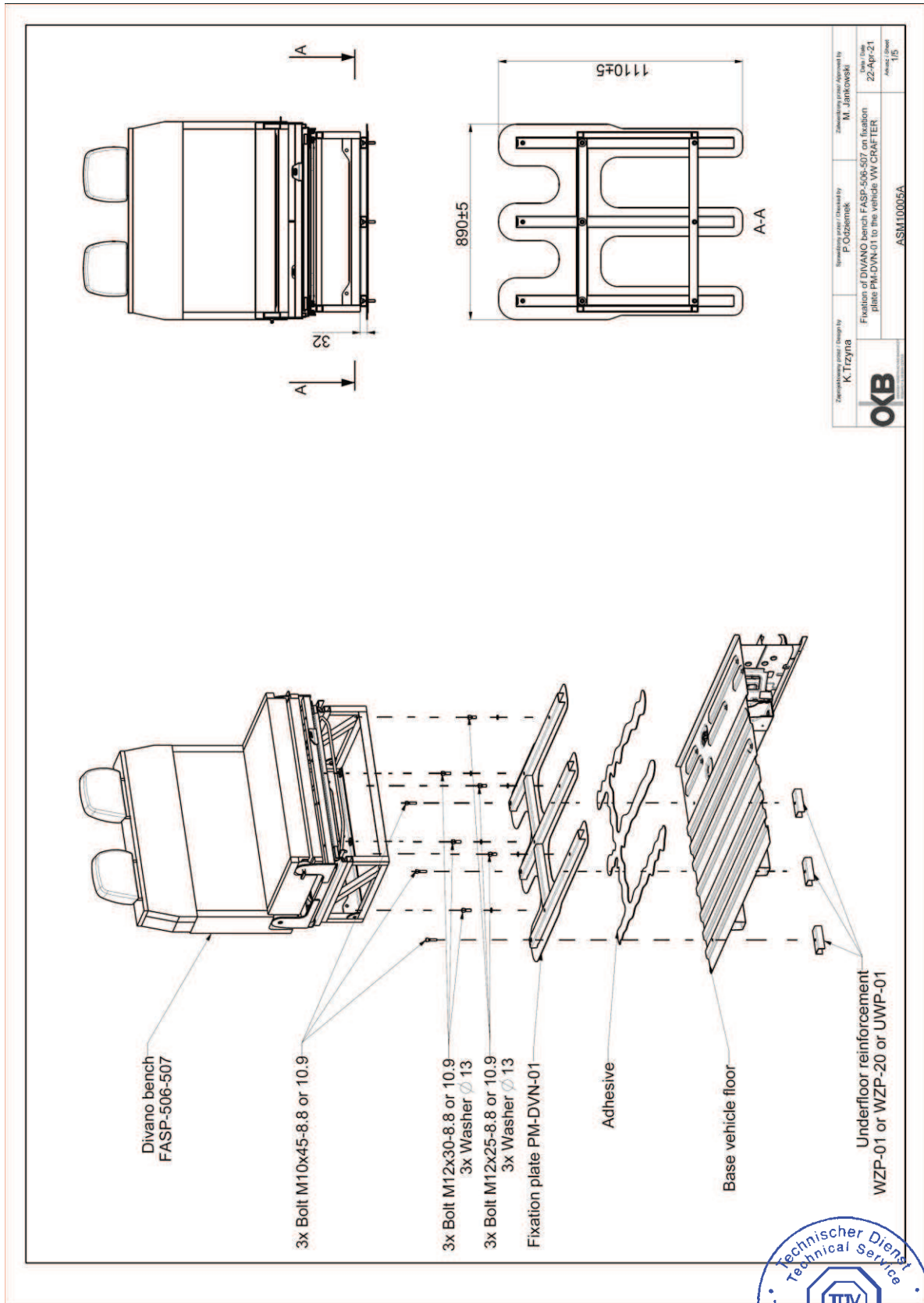
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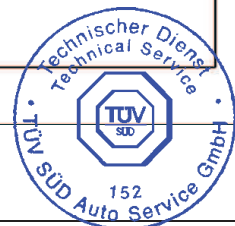
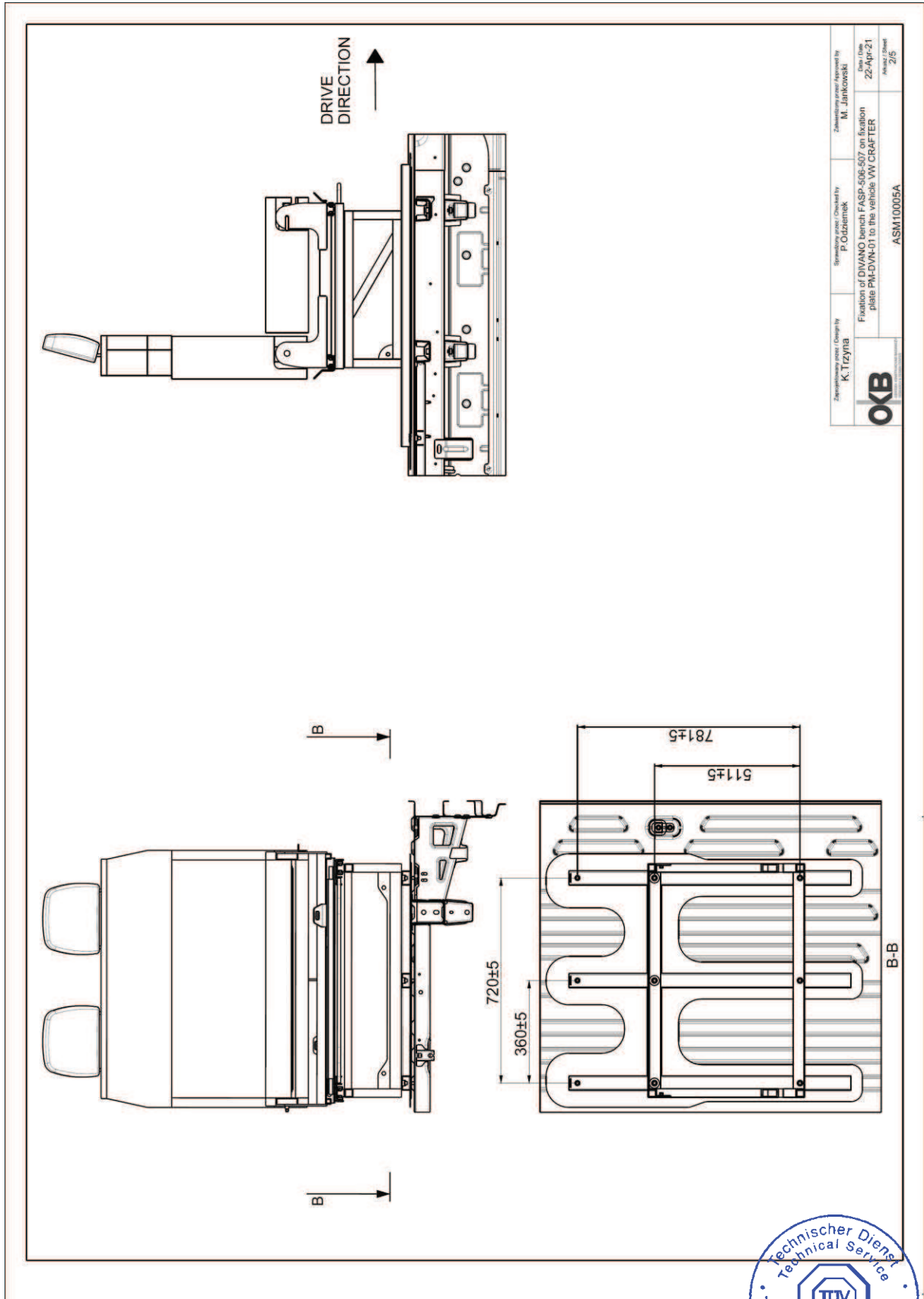


		con TELAIO C SERIE 507	
PUNTI H DIVANO CON CINTURE 2P INCORP.			
DATA	07/07/2011	N.D.	MACSI
PROGETTISTA	MACCINELLI	VERIFICATA	MACCINELLI
REVISIONI			
1			
2			
3			
4			
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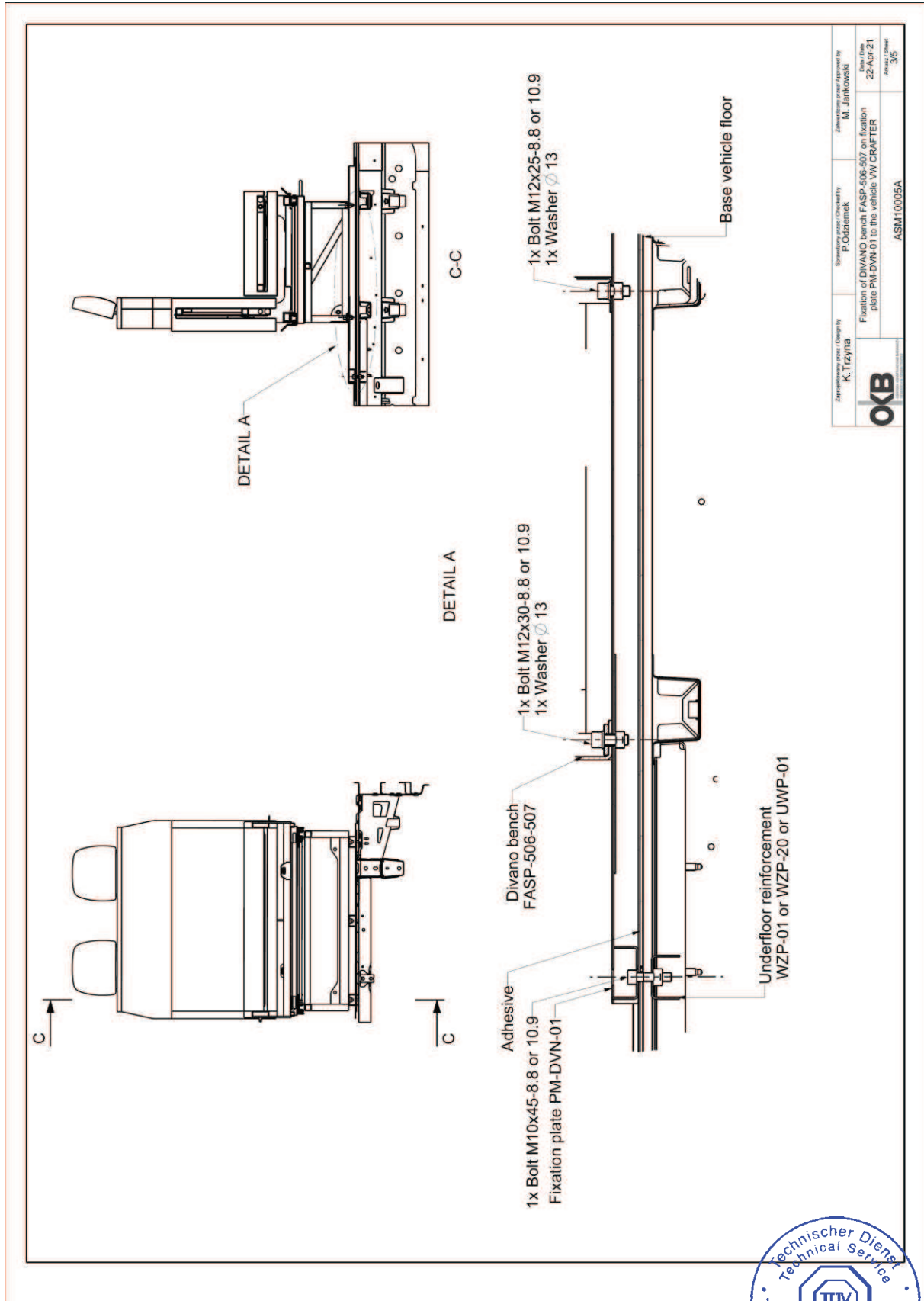


Enclosure 3: SEAT ANCHORAGES

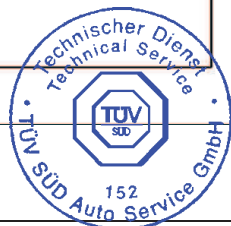
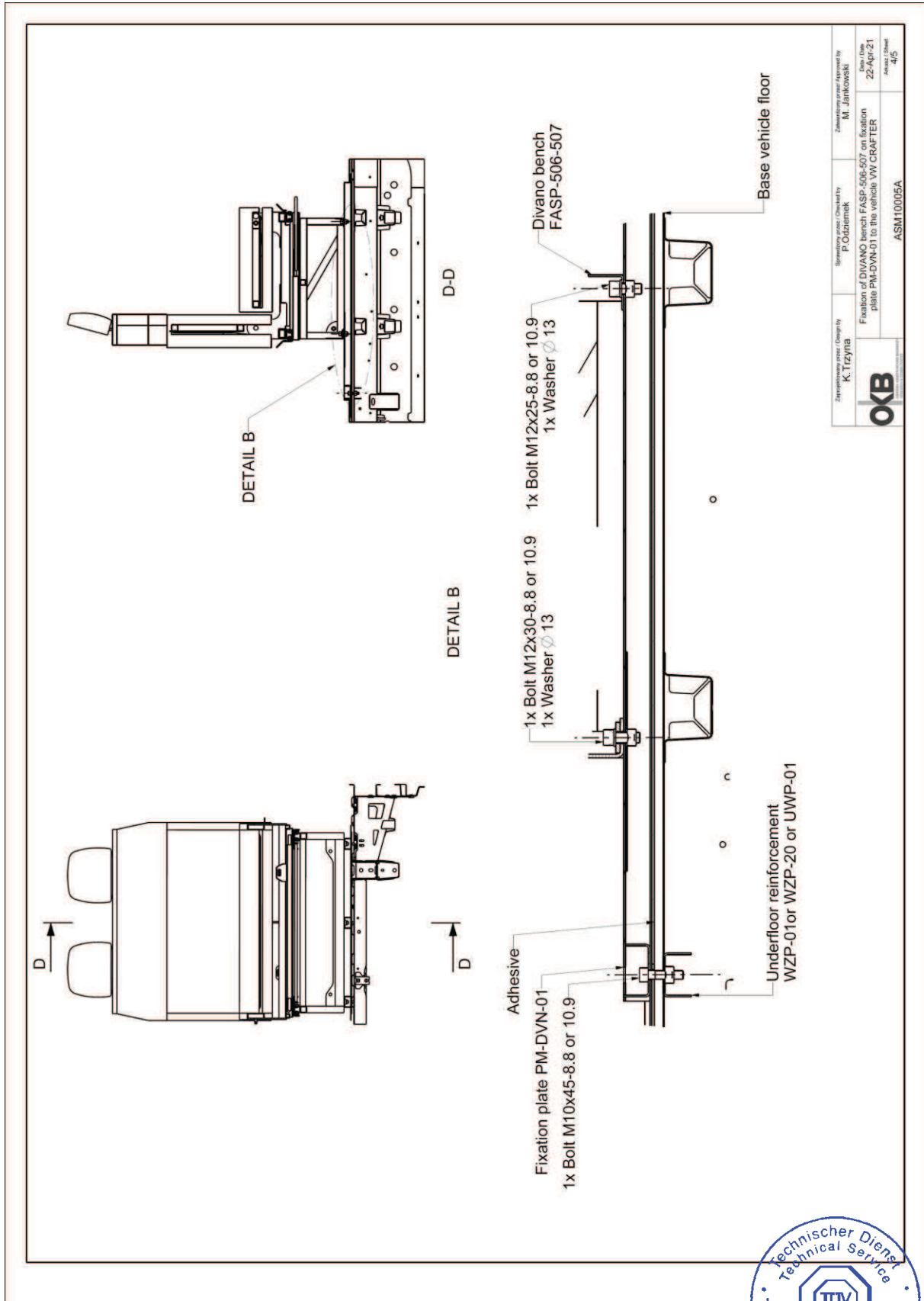




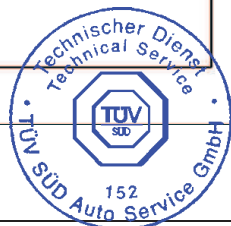
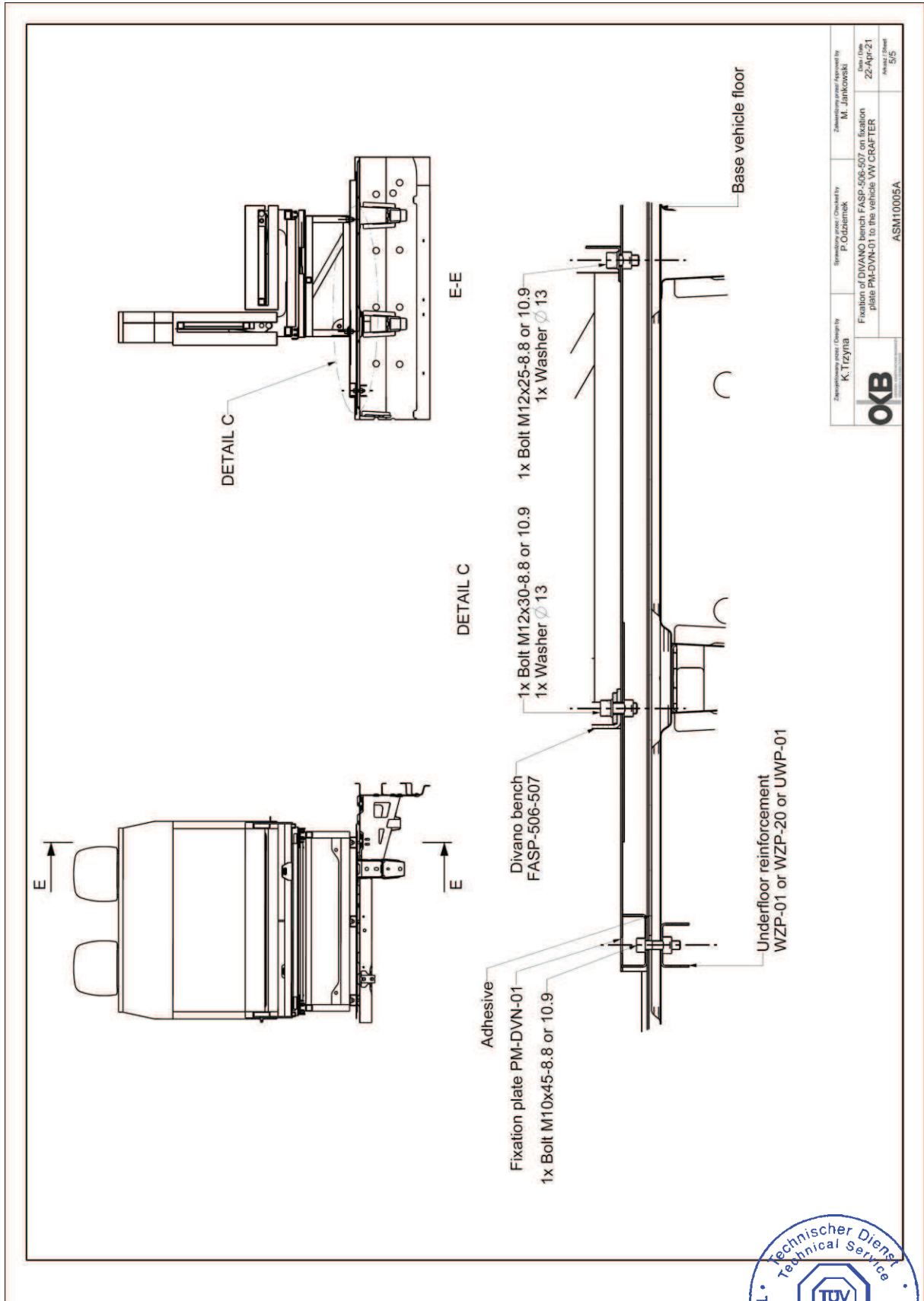
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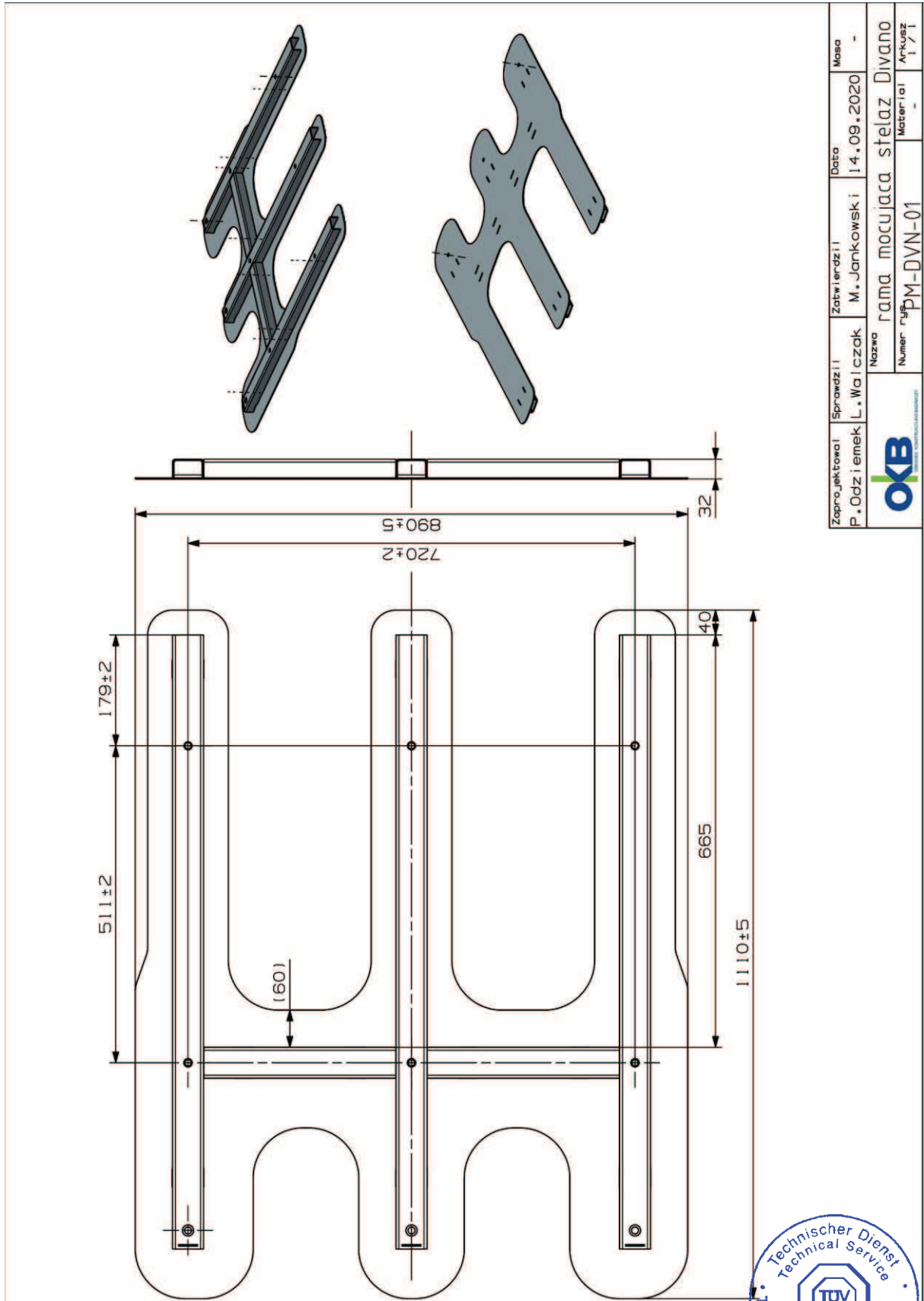


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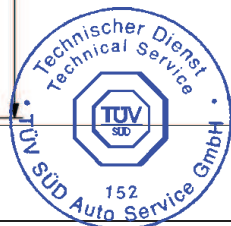


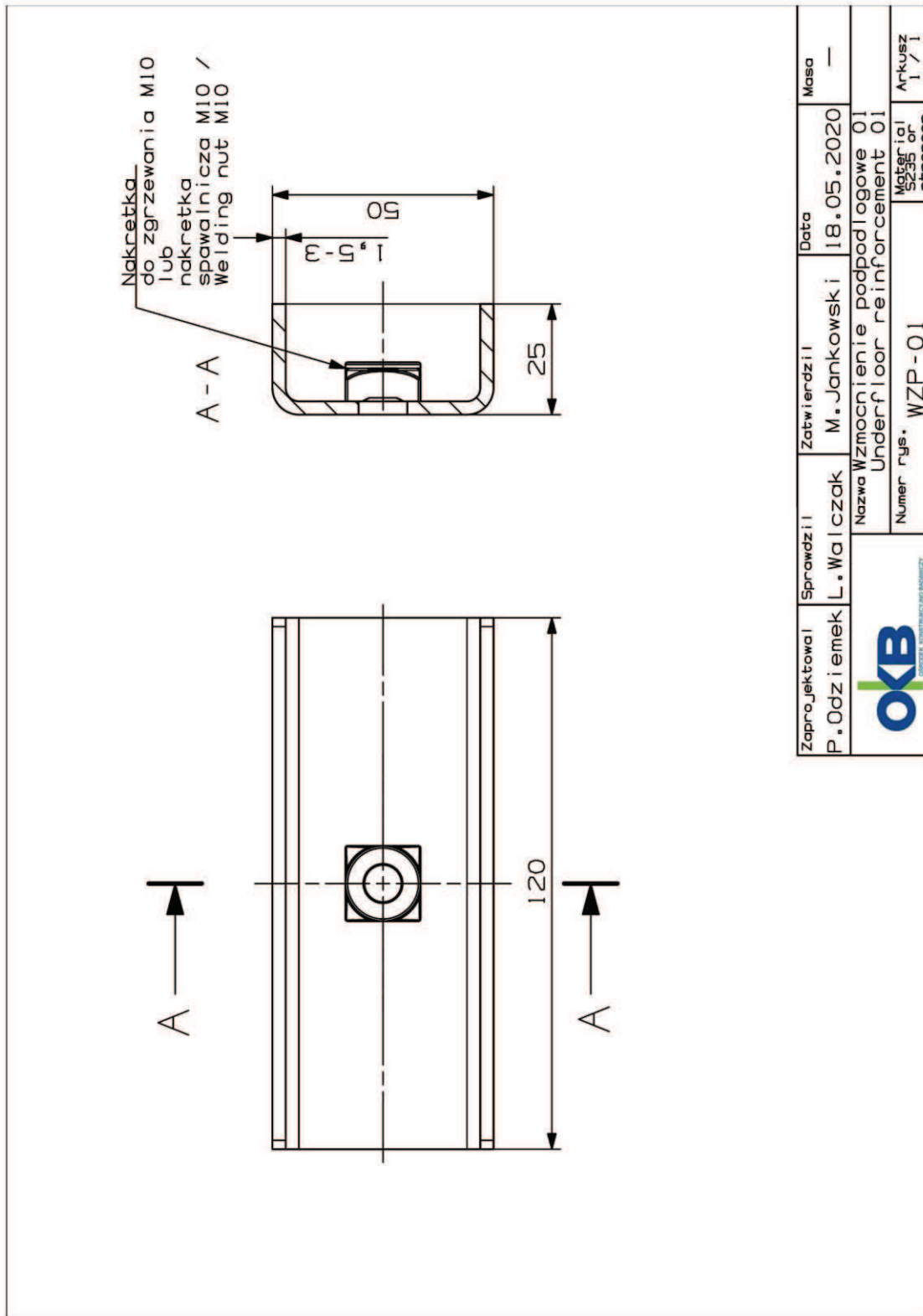
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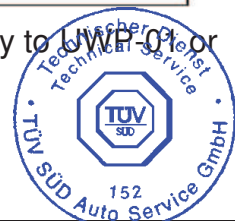


Zaprojektował	Sprawdził	Zatwierdził	Data	Masa
P. Odzimek	L. Walczak	M. Jankowski	14.09.2020	-
Nazwa		Material		
rama mocujaca stelaz Divano		PM-DVN-01		
Numer rysunku		Arkusz		
1/1		1/1		

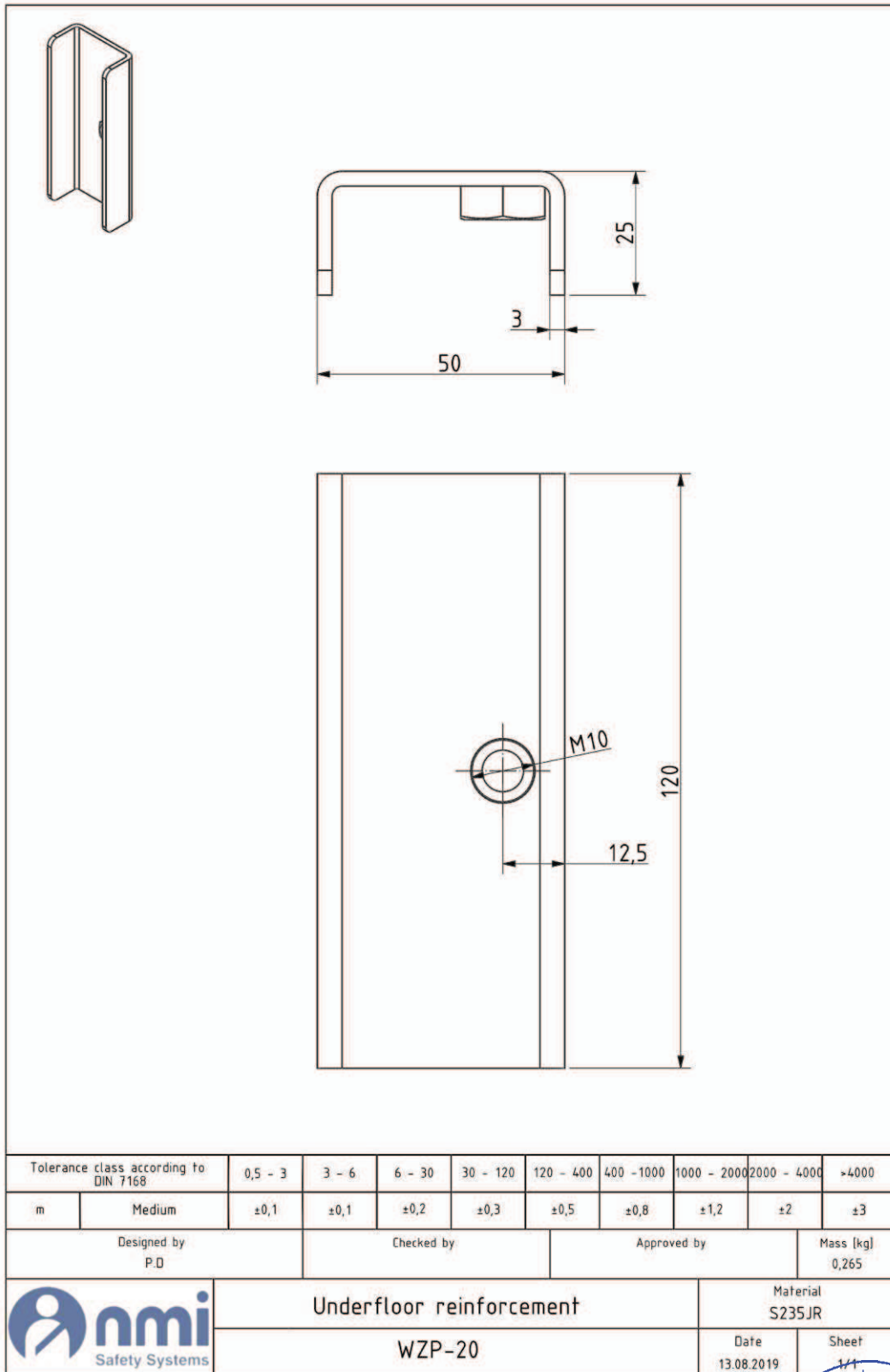




Underfloor reinforcement WZP-01 can be mounted interchangeably to WZP-01 or WZP-20



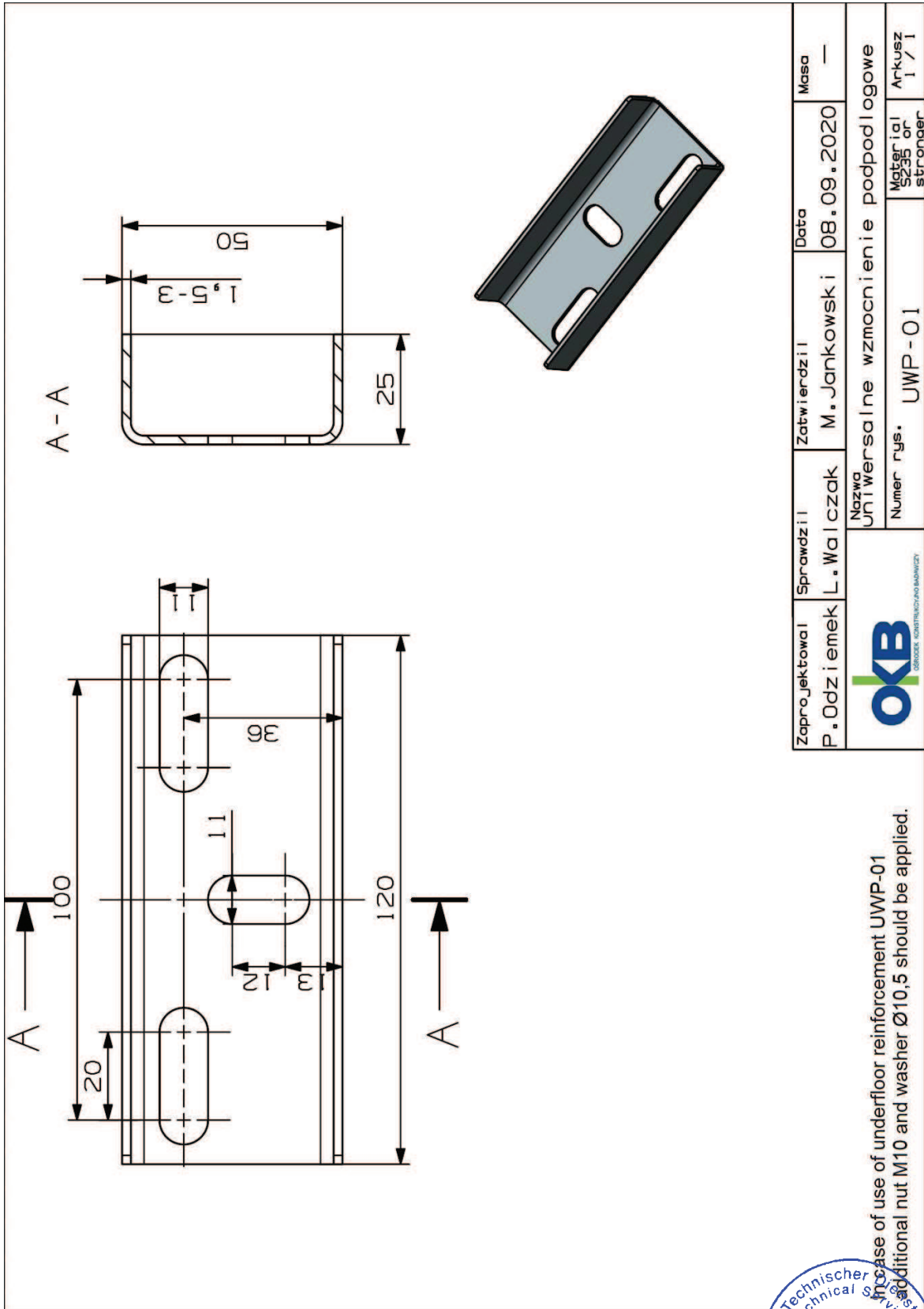
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Underfloor reinforcement WZP-20 can be mounted interchangeably to WZP-01 or UWP-01

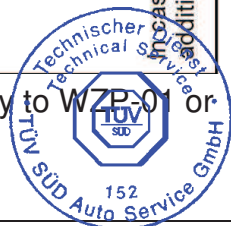


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In case of use of underfloor reinforcement UWP-01 additional nut M10 and washer Ø10,5 should be applied.

Underfloor reinforcement UWP-01 can be mounted interchangeably to WZP-01 or WZP-20

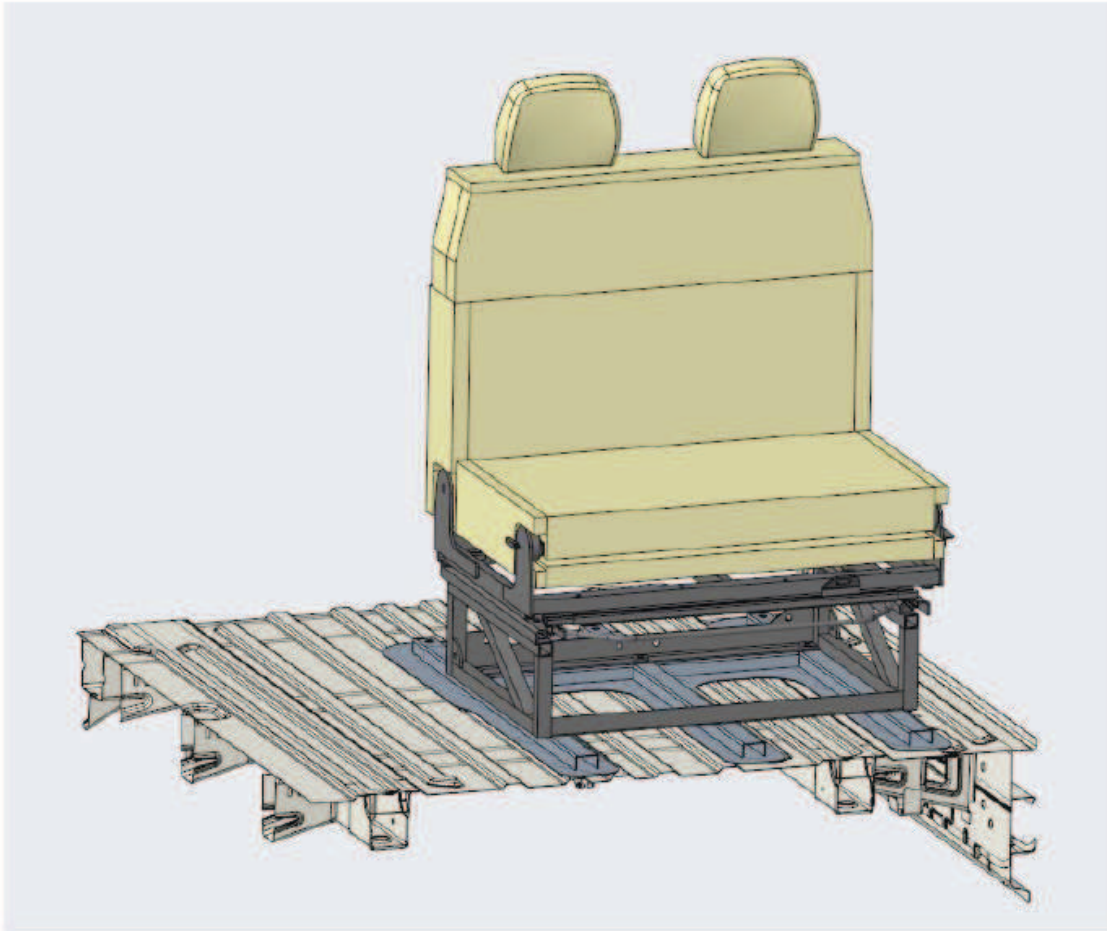


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Instruction of fixation plate installation

Installation guide:

Fixation of DIVANO BENCH FASP-506-507 to the vehicle floor



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Step 1. Preparation of the vehicle body and fixation plate

Clean vehicle floor before installation. Surface must be clean, dry and free from all traces of grease, oil and dust. Use Betaclean (cleaner) to degrease the vehicle's floor and the bottom side of the fixation plate.



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Step 2. Primmering

Apply Betaprime on the vehicle's floor and also on bottom side of the fixation plate. Primer can be applied with a brush or roller. Contact surfaces (of vehicle floor and fixation plate) must be covered by Betaprime.

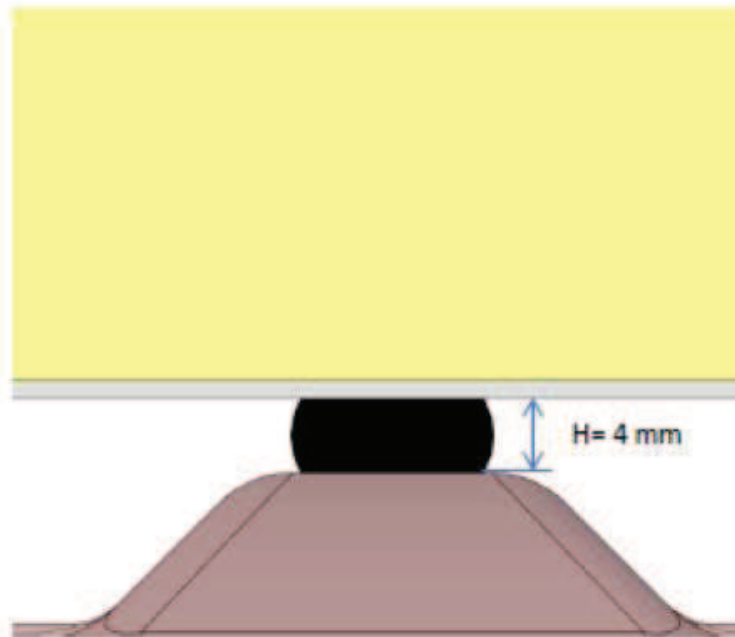
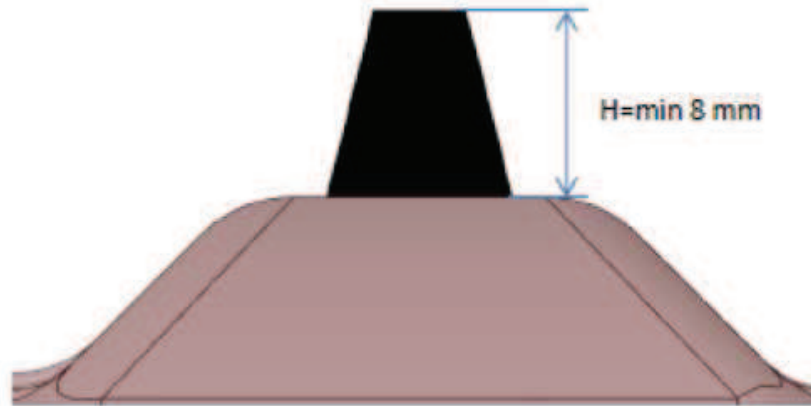


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Step 3. Gluing

Don't walk on the primered surfaces. Use a piece of carton for protection. Apply Betamate glue on raised floor ribs of vehicle floor in the place where the bench is attached. Primer should be dry. The adhesive must be applied on the surfaces coated previously by Betaprime.

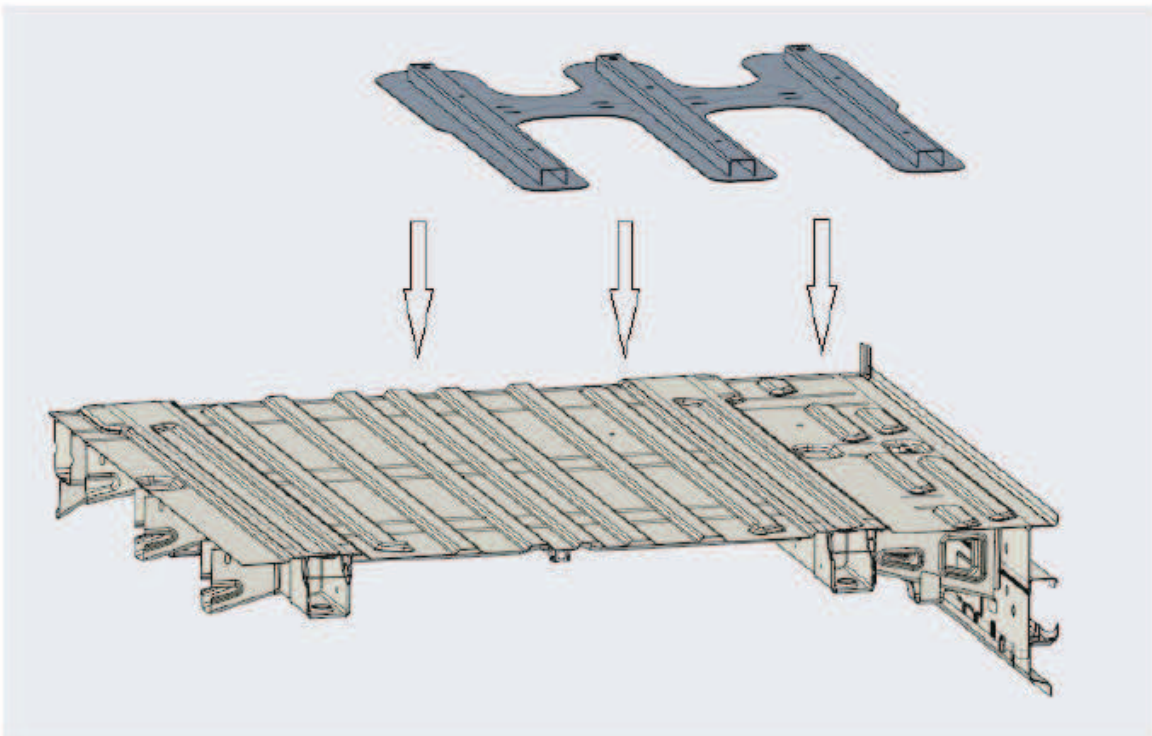
Recommended glue bead



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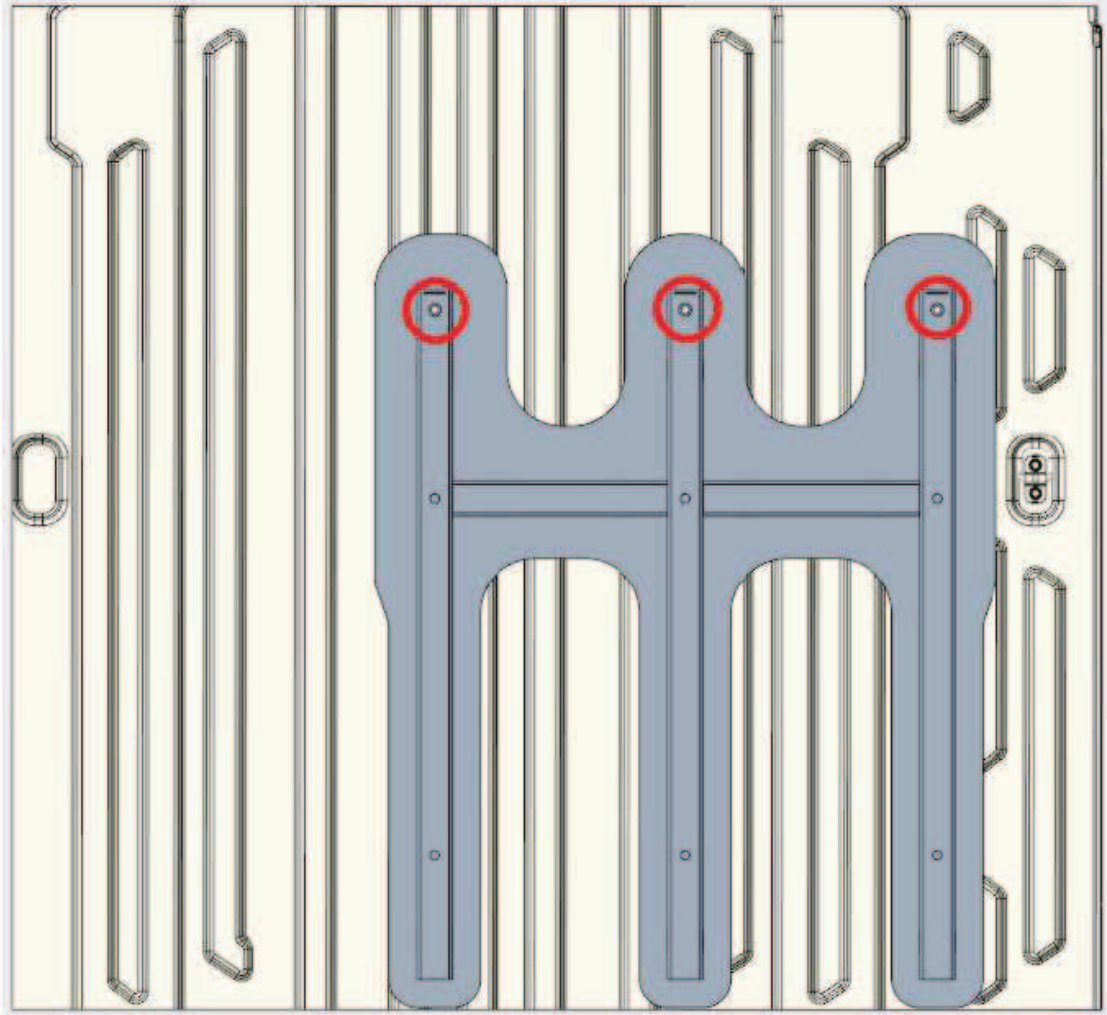
Place and glue the fixation plate to the desired location on the vehicle floor. Leave the floor for at least 24 h. Don't walk on the fixation plate and don't move the vehicle.



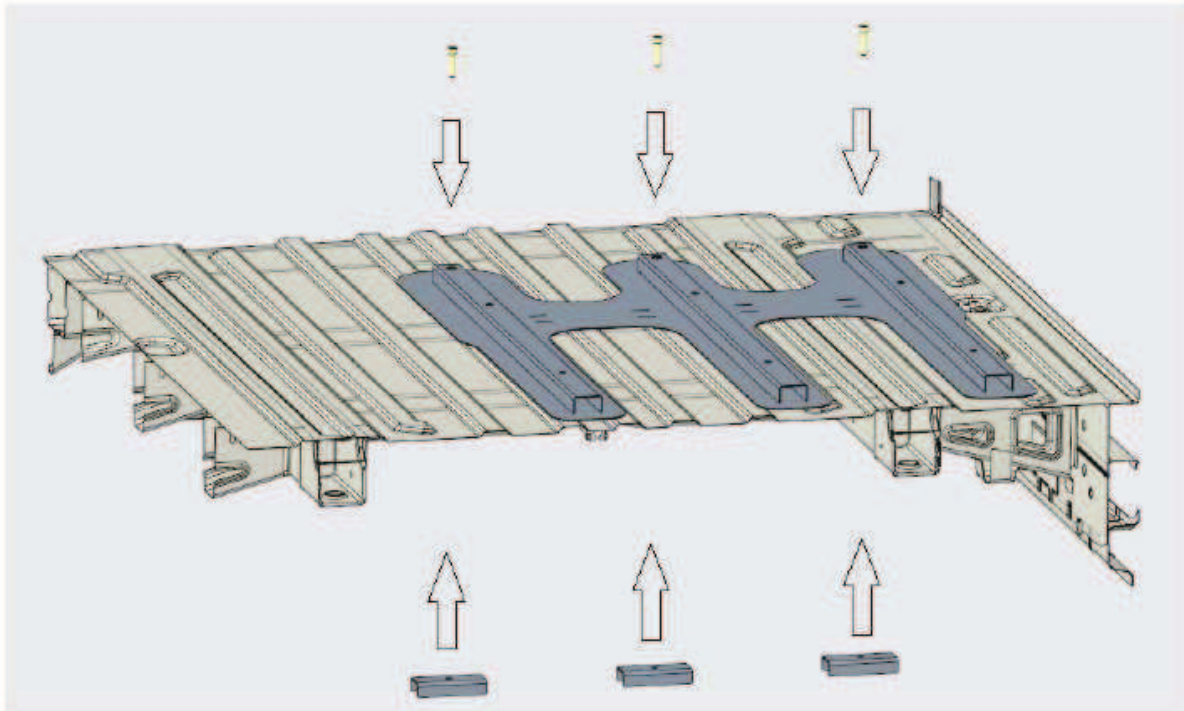
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Step 4. Underfloor reinforcements

Drill holes $\phi 11$ in the vehicle floor according existing holes in fixation plate.



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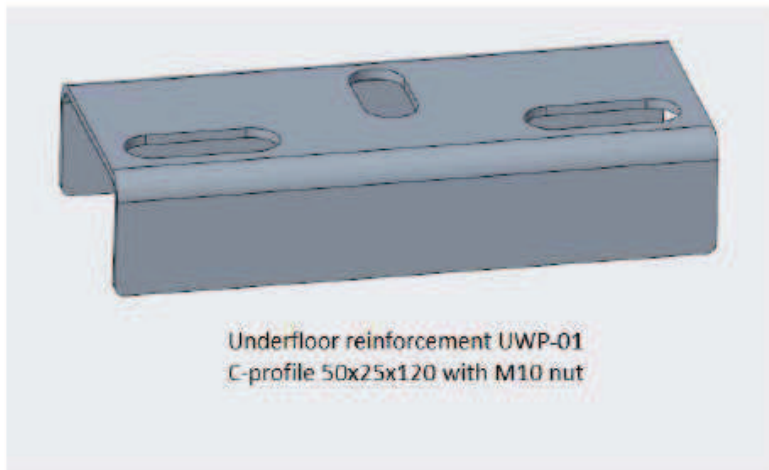
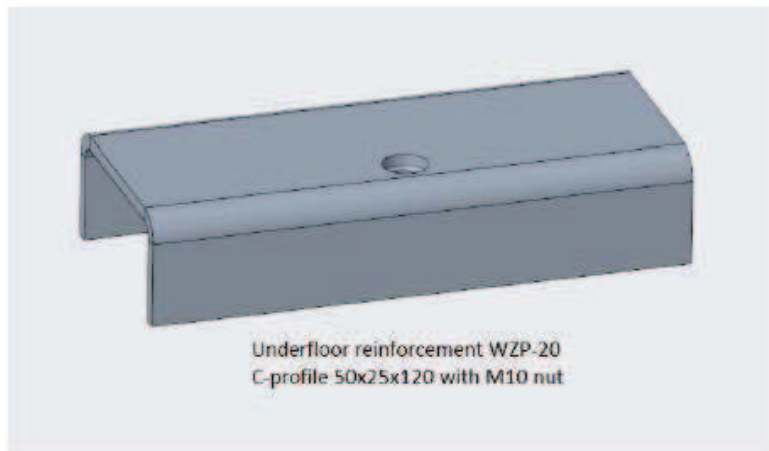
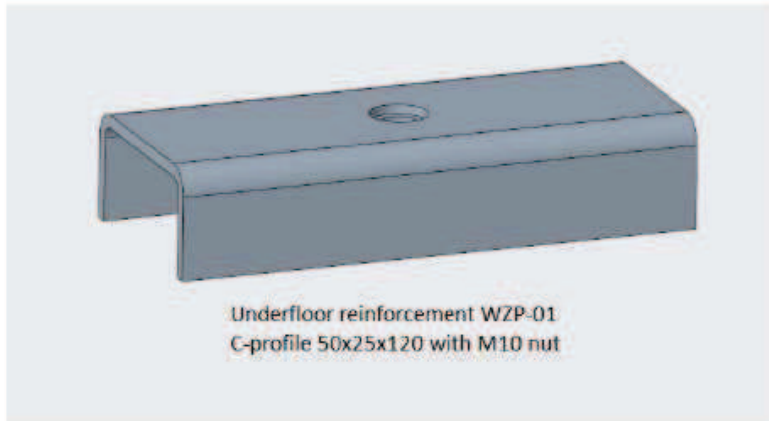


Screw the underfloor reinforcements. Tightening torque 30 Nm. Use liquid anaerobic glue to secure the bolts.

In case of use of underfloor reinforcement UWP-01 additional nut M10 and washer Ø10,5 should be applied.



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Underfloor reinforcement can be rotated by 90 degrees. Put the rubber blank plugs into the installation holes.



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Technical Data Sheet

Dow Automotive

BETACLEAN 3350

Description / Application:

BETACLEAN 3350 is a cleaner for removing dirt and grease from plastics, paints and glass

All Dow Automotive products are primarily developed in co-ordination with the automobile manufacturers, according to their needs and their specifications; they are approved for the specific applications as defined by the customer.

The use of the product other than approved application have to be released in writing by the Technical Service of Dow Automotive.

Technical Data:

Basis	Heptane
Colour	Colourless, transparent
Density	0,68 g/cm ³ at 23°C
Flash point	-4°C
Instructions for use	Wipe contaminated surface with BETACLEAN 3350 saturated, binder-free tissues or cloths. Preliminary trials carried out by our technical service department are recommended.
Shelf life	12 months in unopened containers
Containers	100, 250, 1000ml aluminium containers
Protection measures	See health and safety data sheet.

DOW AUTOMOTIVE Quality Management

Quality is our highest priority. Dow Automotive works with a highly modern Quality Management System which meets all international requirements of QS 9000, VDA-6 and ISO 9001.

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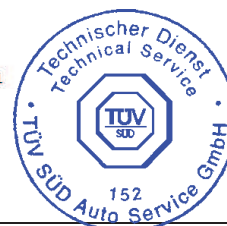
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Dow Automotive

Technical Datasheet

Aftermarket Division

BETAPRIME 5061

Description / Application:

One-Step adhesion promoter for glass, ceramic serigraphy in combination with BETASEAL and BETAMATE PUR Adhesives. A prior cleaning of the bonding surface with BETACLEAN 3300 is necessary.

All Dow Automotive products are primarily developed in co-operation with the automobile manufacturers, according to their needs and their specifications; they are approved for the specific applications as defined by the customer.

The use of the product other than approved application have to be released in written form by the Technical Service of Dow Automotive.

Technical Data:

Basis	Silane modified polymers
Colour	black
Pigments	carbon black
Density	approx. 0.97 g/cm ³ bei 23°C
Viscosity (DIN-cup 4)	< 14 s bei 23°C
Flash Point	See health and safety data sheet.
Processing temperature	ideal 10 - 40°C
Tack free time	50 - 150 sec @ 23°C / 50 % r.h.
Evaporation time	min. 10 min @ 23°C / 50 % r.h., max. 8h Reactivation with BP 5061 or BW 4001, 4002 possible.
Instruction for use	Shake container well before opening. Continue to shake for at least 60s after steel balls inside the container are released. Caution! The product is extremely hygroscopic! Close container immediately after use to preserve remaining contents. Use up remainder within a few days.
Bonding surface preparation	Clean bonding areas with the BETACLEAN 3300. Verify compatibility or consult our technical service department.
Cleaning	Clean Equipment with BETACLEAN 3000
Shelf life	9 months in unopened containers (see "use before" date printed on the container)

Dow Automotive, Techn. Datasheet, BETAPRIME, Status terminated, Issue 04, 15.01.2001, Sie/D-3, Page 1



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Storage once opened

- applicator: single use, do not store
- 100 ml bottle: 5 days in original container

Storage

Temperature: 5°C to 25°C
Short term up to 40°C

Containers

Single use applicator,
100 ml aluminium bottle

Protection measures

See health and safety data sheet

Dow Automotive quality assurance

Quality is our utmost goal. Dow Automotive works according to a modern quality management system conforming to ISO/TS 16949:2002.

Environment: All sites of Dow Automotive are conforming to ISO 14001:2004.

All statements, technical information and recommendations contained in this document are based on tests that we believe are reliable.

However, the accuracy or completeness of the statements, information and recommendations is not guaranteed, as before using, the user should determine the suitability of the product for user's intended purpose.

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Automotive Systems

Technical Datasheet

BETAPRIME™ 5500

Short Description

Adhesion promoting primer for laminated glass with enamel layer inside and enamel substrates. To be used in combination with Dow Automotive Systems PUR-Adhesive/sealants.

Properties

One-step primer which can be used without silane wipe pretreatment. Primer with short open time.

Application

All Dow Automotive products are primarily developed in co-operation with the automobile manufacturers, according to their needs and their specifications, they are approved for the specific applications as defined by the customer. The use of the product other than approved application have to be released in written form by the Technical Service of Dow Automotive.

Technical Data

Unless specified otherwise test are conducted at 23°C/50% relative humidity.

Basis	Polyisocyanates
Colour	black
Pigments	Carbon black
Density	0.901 - 1.001 g/cm ³
Solid contents	35 - 40%
Viscosity DIN-cup 4mm after 3d 40°C	10.5 - 13 s
Minimum open time	3 minutes / felt application
Maximum opentime	3 days / felt application
Reactivation:	One time reactivation possible with: BETAWIPE™ VP04604 (wipe-on / wipe off) maximum open time 15 minutes.
Processing temperature	10 - 40°C
Processing instructions	Primer bottle needs to be shaken for at least one minute before opening, to release the steel balls within the container. In case steel balls are not dislodged, then it is recommended to strike the top of the container against a hard surface so that the steel balls are audible within the container. This is essential in order to disperse any possible sediment within the primer.
Caution	The product is extremely sensitive to humidity. It is imperative that container should be closed immediately after use, in order to extend durability of the remaining primer contents.
Shelf life	6 months at + 5°C - +25°C in unopened containers.
Shelf life after opening	Depending on ambient conditions and working method: Use following test method to monitor if primer can be further used for one day or if it is non-conformous and has to be disposed of. Daily measurement of viscosity DIN 4 cup: must not exceed 17 seconds.
Bonding Surface Preparation	All bonding surfaces must be free of impurities (dirt, dust, water, oil, grease, release agent and similar contaminants). Verify compatibility before use, or consult our Technical Service for more information.
Processing equipment	Primer applicator, primer application device (flask with primer applicator head and felt) or automatic primer application system.
Cleaning	Clean equipment with BETACLEAN™ 3000
Containers	Aluminium bottles



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Automotive Systems

Technical Datasheet

Health and Safety

The use of bonding agent (primer) is generally harmless and as long as the basic rules for safe handling of chemicals are applied. However, the direct contact of uncured primer to food and food containers shall be avoided. Mandatory are protective measures in order to prevent direct skin contact as well as to avoid solvent inhalation. Proper ventilation should apply when using primers with high volatile content. If any primer is applied in the means of spraying technique, special care should apply in relation to respiration and personal protection in order to prevent aerosol inhalation. Suitable solvent resistant rubber gloves, conventional eye protection as well as appropriate type of respirator mask are essential. In case of direct contact with any primers the skin must be rinsed first with warm water and then cleaned thoroughly with conventional soap. Solvents shall be avoided. For detailed protective measures refer to the material safety data sheets.

Dow Automotive Systems Quality Assurance

Quality is our utmost goal. Dow Automotive works according to a modern quality management system conforming to ISO/TS 16949. Environment: All sites of Dow Automotive are conforming to ISO 14001.

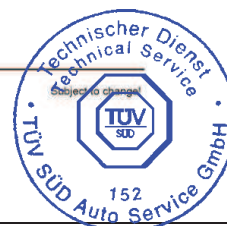
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Dow Automotive

BETAMATE 7120

Description / Application:

Single-component, high-viscosity, atmospheric humidity-curing polyurethane bonding/sealing compound for high-strength, permanently elastic adhesive joints.

This material is used in the direct glazing process of the automotive industry in combination with glass-primer and wipe and paint primer. It is also suitable for bonding certain plastic parts in conjunction with the plastic primer BETAPRIME 5404 and/or a specific pretreatment according to prior test results.

All Dow Automotive products are primarily developed in co-ordination with the automobile manufacturers, according to their needs and their specifications; they are approved for the specific applications as defined by the customer.

The use of the product other than approved application have to be released in writing by the Technical Service of Dow Automotive.

Technical Data:

Basis	polyurethane prepolymers
Colour	black
Density	ca. 1.23 g/cm ³ at 23°C
Solid contents	> 98%
Viscosity (Extrusion, Ballan 4 mm nozzle, 4 bar)	pasty, pumpable 12 - 18 g/min at 23°C
Flash point	> 100°C
Processing temperature	10 - 40°C
Open time	max. 15 min at 23°C/50% rh primerless
Sagging behavior	very good, non-sagging
Tack-free time	approx. 30 min at 23°C/50% rh
Cure rate	> 4 mm in 48 h at 23°C/50%rh
Tensile strength (DIN 53 504)	9 ± 1 MPa
Elongation at break (DIN 53 504)	> 500%
Lap shear resistance (EN 1465)	min. 5 MPa (height of adhesive layer: 2mm) 23°C/50% rh,
Resistance to tear propagation (DIN 53 515)	approx. 15 N/mm
Shore A hardness (DIN 53 505)	60 +/-5
Abrasion resistance	Extremely high

Dow Automotive AG, Techn. Datenblatt, BETAMATE, Status terminated, Ausgabe 03, 27.04.99, D-7/sr, Page 1



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Temperature stability	-40°C to 100°C, for short periods up to 120°C
Resistance to chemicals	Highly resistant to aqueous chemicals, petrol, alcohol and mineral oils. Conditionally resistant to esters, ketones, aromatics and chlorinated hydrocarbons
Bonding surface preparation	All bonding surfaces must be free of dirt, dust, water, oil and grease. In general surfaces should be primed. Verify compatibility or consult our technical service department.
Processing equipment	Cartridges: hand-operated or pneumatic gun with mechanical piston Drums, pails: commercial pumping system with connection to automatic applicator, if required.
Cleaning	Uncured BETAMATE 7120 residues can easily be removed with BETACLEAN 3000 or BETACLEAN 3500. Hardened BETAMATE 7120 residues can only be removed mechanically. Immerse equipment in BETACLEAN 3000.
Shelf life	6 months at +5°C to +25°C in unopened containers. (See "use before" date printed on container).
Containers	300 ml cartridges, cardboard packs of 12 Pails: 22 litres Drums: 200 litres
Protection measures	See health and safety data sheet.

Dow Automotive Quality Management

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