

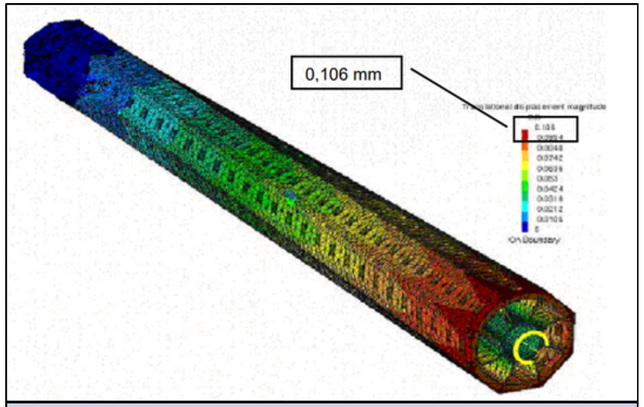
EGT Mechanical Properties

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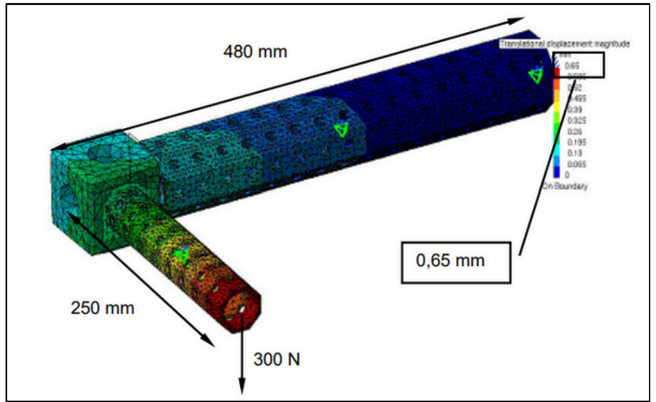


Connection Elements

EGT001



FEM Torsion 125 Nm



FEM combination – flexion and torsion

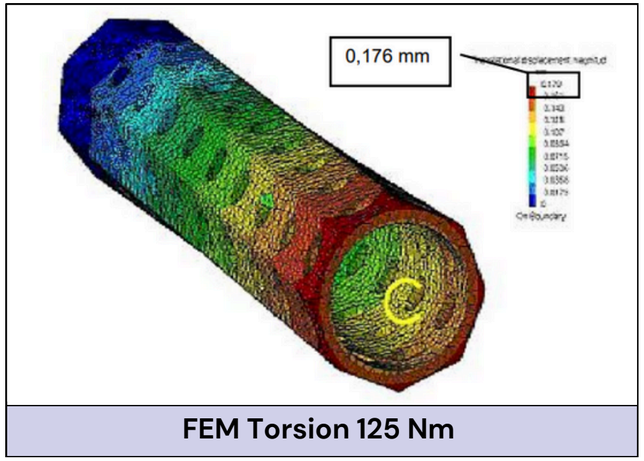
Flexural strength SW80					
	10 kg	20 kg	30 kg	40 kg	50 kg
300 mm	0.009 mm	0.025 mm	0.037 mm	0.05 mm	0.06 mm
600 mm	0.13 mm	0.2 mm	0.27 mm	0.36 mm	0.5 mm
900 mm	0.3 mm	0.6 mm	0.9 mm	1.2 mm	1.5 mm
1200 mm	0.7 mm	1.4 mm	2.1 mm	2.8 mm	3.5 mm

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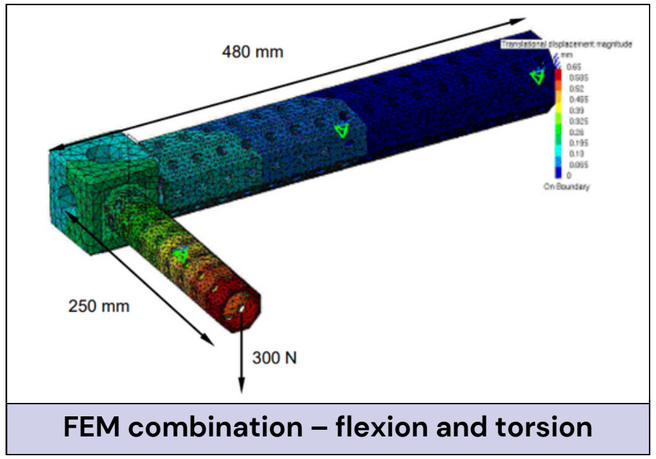
Connection Elements



EGTOO2



FEM Torsion 125 Nm



FEM combination – flexion and torsion

Flexural strength SW50					
	10 Kg	20 Kg	30 Kg	40 Kg	50 Kg
300 mm	0.1 mm	0.2 mm	0.3 mm	0.4 mm	0.5 mm
600 mm	0.8 mm	1.6 mm	2.5 mm	3.3 mm	4.1 mm
900 mm	2.8 mm	5.5 mm	8.3 mm	11.1 mm	13.8 mm
1200 mm	6.5 mm	13.1 mm	19.6 mm	26.1 mm	32.7 mm

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Required assembly tool and torques

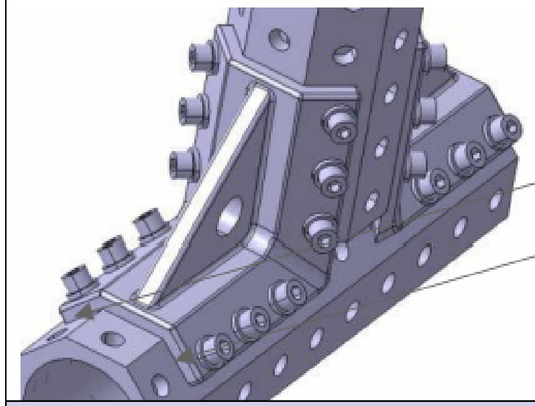
- Torque spanner for the range 20 to 80 Nm
- Insert for hexagon socket SW 5, 6, 8, 10 mm
- Recommendation setting device for blind rivet nuts M8: Fa. FEE: Robert Dirschedl 09672/506-158

Designation	Torque (Nm)
Connection to octagonal profile with screw M8x30	33
Clip APF 205 / 206 with screw M8x35 / 40	21
Fitting screw APF 201 / 202 M6x36 / M6x46	10
Clamp connection with screw M6	12
Clamp connection with screw M8	21
Clamping device connection nut mandrel M10	33
APF 210, 211 angle for robot flange plate with screw M10	40
APF 208, 209 angle for vertical connection screw M12	66
Quick-change device screw M10	60
Quick-change device screw M12	100

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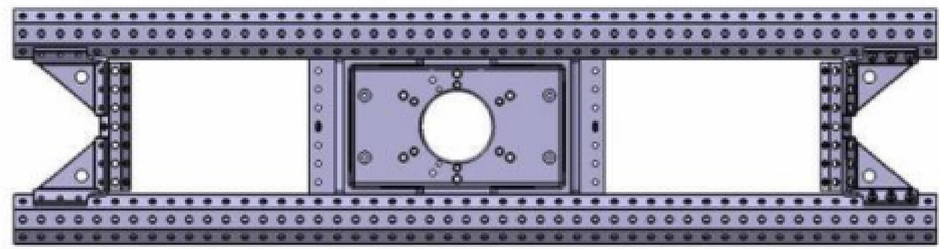
Assembly information important

- For mounting and assembly only use the supplied or prescribed screws and blind rivet nuts as only the latter have been considered in the geometry simulation.
- Don't use any other washers. The size of the washers listed and specified has been dimensioned such that no reset behavior may occur in case of dynamic stress.
- All screws/bolts have to be tightened with the prescribed torque to achieve the retention force requested.
- The maximum torque must not be exceeded by no means as otherwise the admissible surface pressure becomes too high under load. This would lead to the clamping position becoming loose in the long run.
- When mounting, please make sure that the clamping surfaces are clean to avoid a deformation/twisting or slanting of the clamping console.
- Tighten the diagonal screws by hand before tightening them with a torque spanner



Full-area contact between the 2 profile surfaces and the 2 half-shell surfaces!

The half shell must sit perfectly in the V-shape on the profile



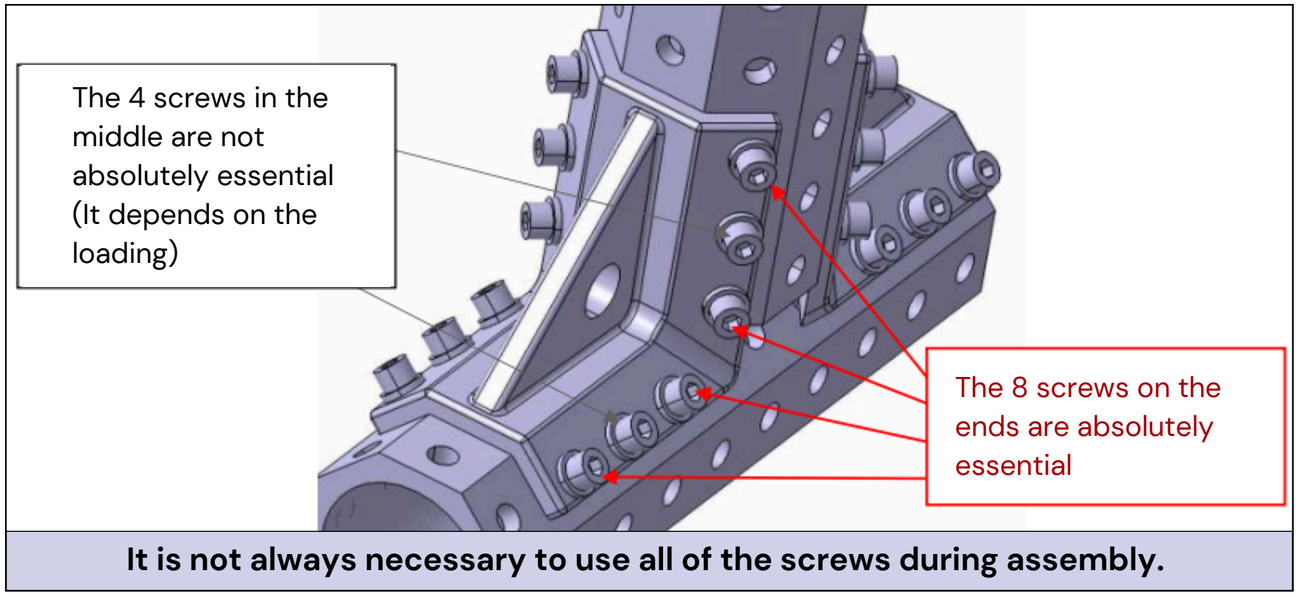
Assemble the outside of the frame first, then the inside!
Example: First fix all parts loosely by screwing, then tighten the M8 profile screws with a 90° angle before tightening the screws on the H frame.

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Assembly information important

Essential Assembly Tips

However, if a row of holes on a standard part is sawed off during reworking, then the middle screws must be used. This must be marked in the illustration and the parts list. Using the screws on the edges of the H base frame is absolutely essential. Depending on the loading case, it will suffice to use every second or third middle screw.

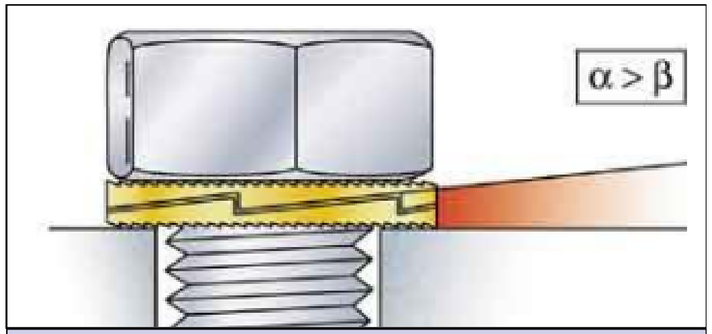


It is not always necessary to use all of the screws during assembly.

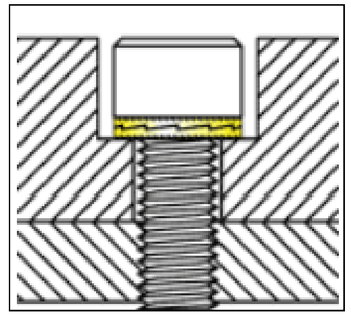
- First hand- tighten all screws/bolts alternately, and then retighten applying a torque of 33 Nm.
- During the first 5 months of use/operation, randomly check the screws/bolts for tight seat.

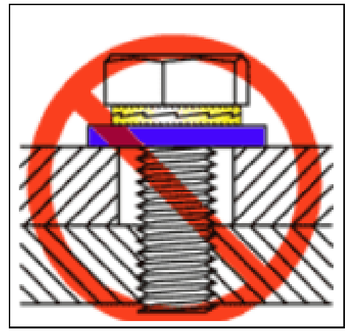
Nord-Lock washers ®

Due to the different angles (α>β) the bolt is self-locking. The expansion of the pair of Nord-Lock washers is larger than the corresponding pitch of the thread. The Nord-lock lock washers ensure proper and secure seat of each screwed connection even if the screwed connection is subjected to extreme vibrations or dynamic stress.



Always mount a pair of washers



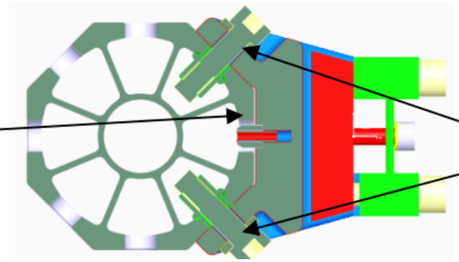


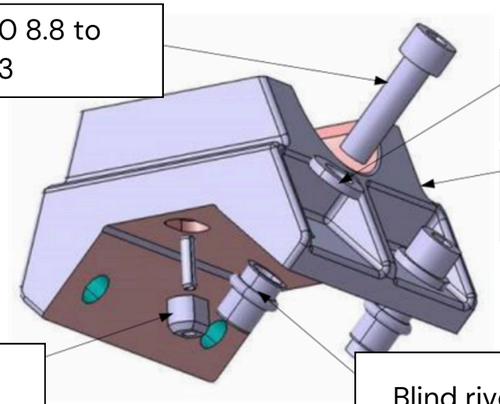
Order reference : ***DNL8F***

D = Coating
NL = Nord-lock
8 = Bolt size (M8)
F = Enlarged supporting surface for aluminum

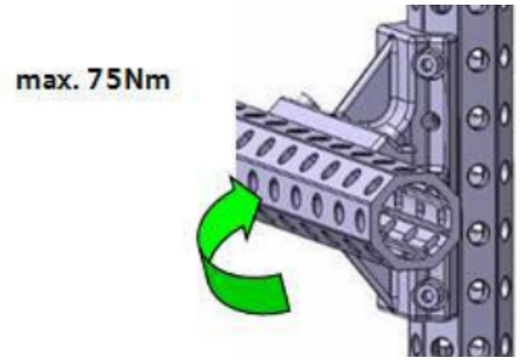
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Connection to octagonal profiles

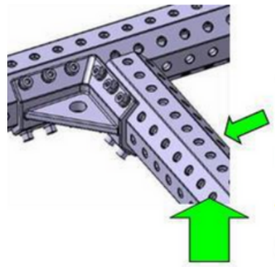




Ensure that the centering pin APF 212 is available for all connection elements with octagonal profiles



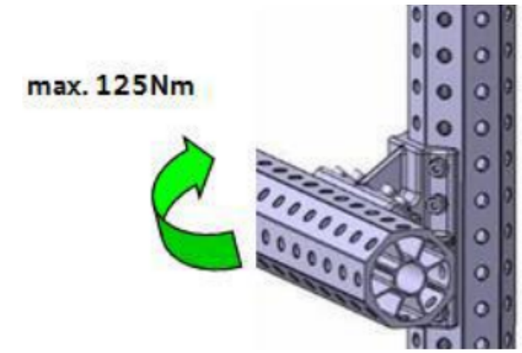
Load transmission for cross connections octagonal profile SW50 to SW50



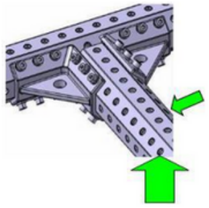
Tension / compression:
SW50 max. 75Nm SW80 max.125Nm

Torsion:
SW50 max.35Nm
SW80 max.75Nm

Power transmission with an angle of 90°



Load transmission for cross connections octagonal profile SW80 to SW80



Tension / compression:
SW50 max.150Nm
SW80 max. 250Nm

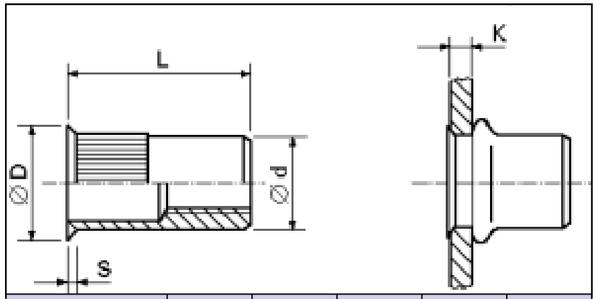
Torsion:
SW50 max. 75Nm
SW80 max.125Nm

Power transmission with two angles 90°

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Blind rivet nuts

Knurled blind rivet nut M8, stainless

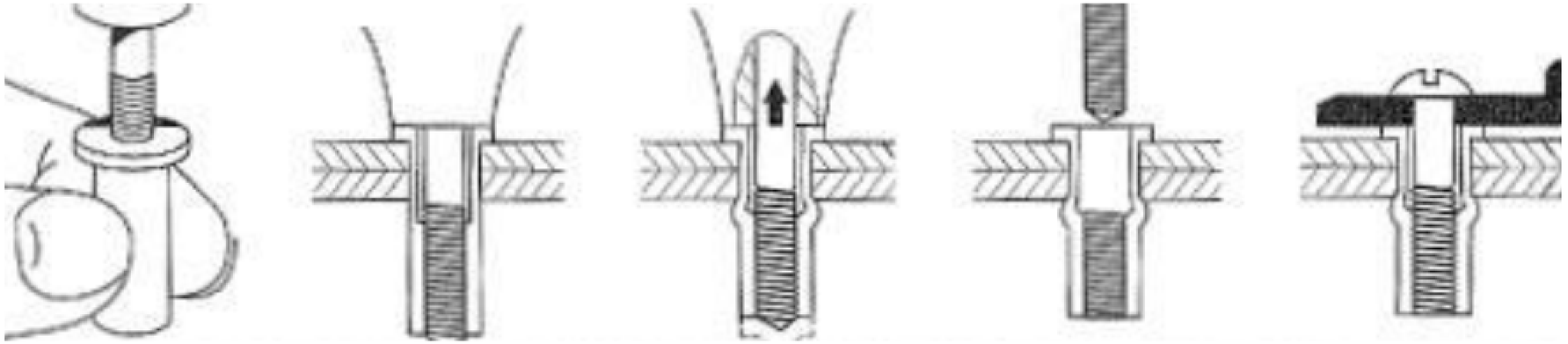


Thread	K	d	D	S	L
M8	3-6	10.9	12	0.6	19.5



An electrical replacement device only for maintenance or repair work

Assembly process



Step - 1	Step - 2	Step - 3	Step - 4	Step - 5
Twist the blind rivet nut onto the mandrel	Insert the blind rivet nut into the mounting hole	Compression: The nut is pulled against the mouthpiece of the setting device and expands radially within and behind the mounting hole.	Unscrew the mandrel from the blind rivet nut set.	The blind rivet nut can be stressed.

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Blind rivet nuts

Knurled blind rivet nut M8, stainless

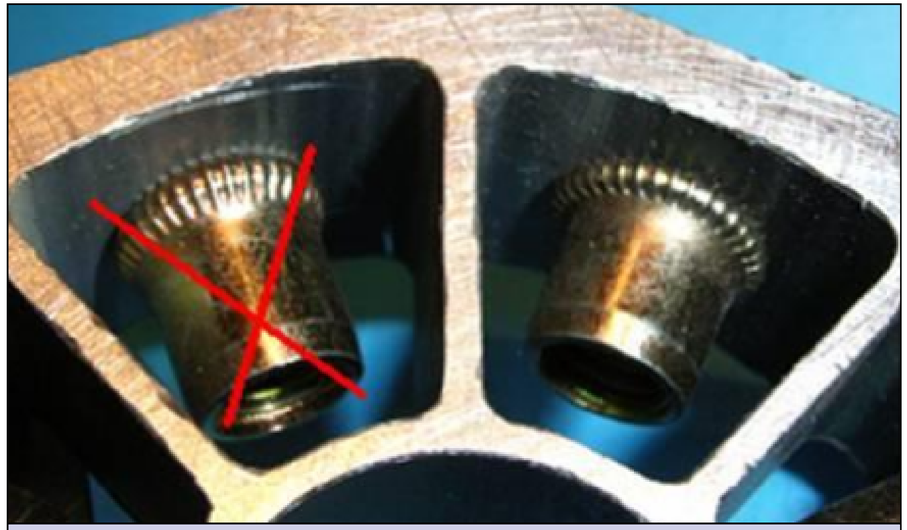
Essential Assembly Tips

When the blind rivet nuts are being mounted, the heads must not protrude, otherwise they will sit above the surface of the profile.
This results in significant dimensional discrepancies and is not permitted. The following must be observed to prevent the heads from protruding above the profile surface

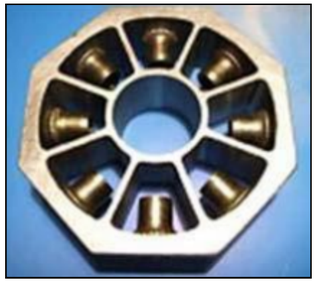
Correctly adjust the setting device for the combination of octagonal profile and blind rivet nut type and perform ten riveting tests to check whether 35 Nm are achieved.

Set the blind rivet nut is set as vertical to the surface as possible.

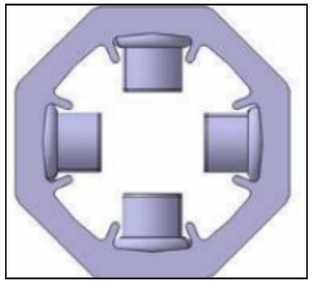
Despite quality checks and quality management it may happen in individual cases that the counterbores do not reach 0.5 – 0.8 mm in depth. In this case, make a complaint and exchange or rework the counterbore.



The setting gun must be calibrated in such a way that the closing head of the blind rivet nuts is cleanly compressed.



On octagonal profiles EGT 001 SW80, the blind rivet nuts EGT 214 can be set at 45° intervals.



On octagonal profiles EGT 002 SW50, the blind rivet nuts EGT can only be set at 90° intervals.

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EGT Test report

SW50

Torque test

Test Product:	-
Part Name:	SW50
Part No.:	-
Material Specification:	-
Dimension:	-
Received Date:	02 / May / 2024
Tested Date:	17 / May / 2024

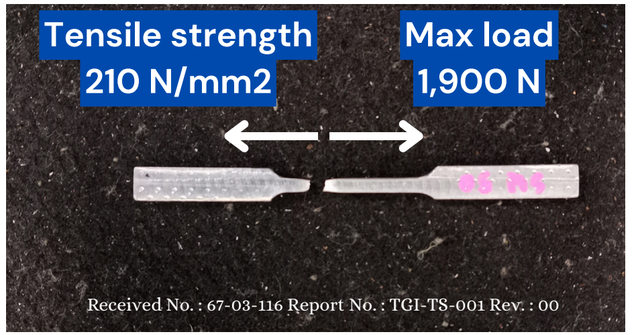
Test No.	Max. Torque (N.m)	Result
1	20.35	Thread Fail



Tensile test

Test Product:	-
Part Name :	SW50
Lot No. :	-
Material Specification:	Raw Material
Dimension:	-
Received Date:	02 / May / 2024
Tested Date:	17 / May / 2024

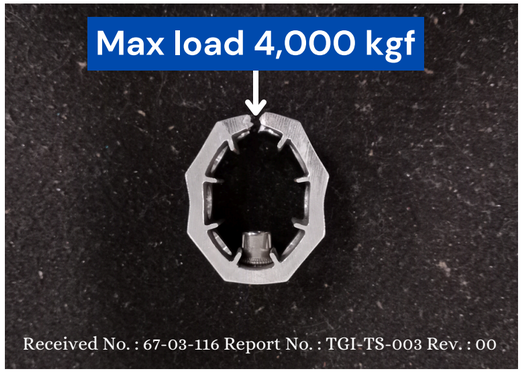
Sample Name	Thickness (mm)	Width (mm)	Area (mm^2)	Proof Load 0.2% (N)	Max Load (N)	Proof Strength 0.2% (N/mm^2)	Tensile Strength (N/mm^2)	Elongation GL= 17mm (%)
1	3.01	3.03	9.12	1,680.301	1,985.650	184.237	217.718	15.71



Pull out test

Test Product:	-
Part Name:	SW50
Part No.:	-
Material Specification:	-
Dimension:	-
Received Date:	02 / May / 2024
Tested Date:	17 / May / 2024

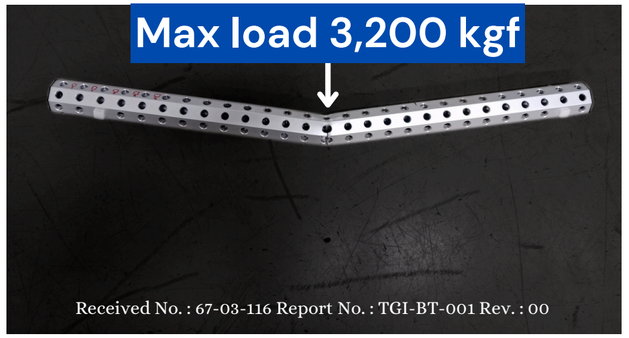
Test No.	Max Load. (N)	Max Load. (kgf)
1	39,819.643	4,059.086



Bending test

Part Name:	SW50
Part No.:	-
Lot No. :	-
Material Specification:	Raw Material
Dimension:	-
Received Date:	18 / Jun. / 2024
Tested Date:	20 / Jun. / 2024

Test No.	Former Diameter (mm)	Distance Between Rollers (mm)	Max. Load (kN)	Max. Load (kgf)
1	40.0	190.0	32.260	3,289.590



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EGT Test report

SW80

Torque test

Test Product:	-
Part Name:	SW80
Part No.:	-
Material Specification:	-
Dimension:	-
Received Date:	02 / May / 2024
Tested Date:	17 / May / 2024

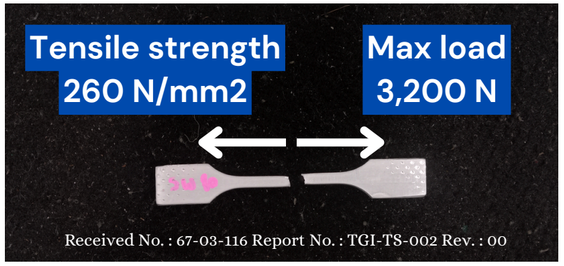
Test No.	Max. Torque (N.m)	Result
1	27.65	Thread Fail



Tensile test

Test Product:	-
Part Name :	SW80
Lot No. :	-
Material Specification:	Raw Material
Dimension:	-
Received Date:	02 / May / 2024
Tested Date:	17 / May / 2024

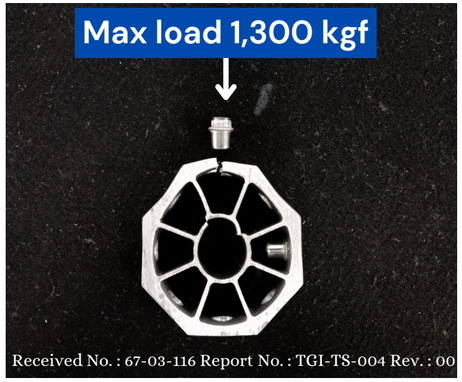
Sample Name	Thickness (mm)	Width (mm)	Area (mm^2)	Proof Load 0.2% (N)	Max Load (N)	Proof Strength 0.2% (N/mm^2)	Tensile Strength (N/mm^2)	Elongation GL= 20mm (%)
1	3.03	4.00	12.12	2,103.364	3,220.762	173.545	265.739	15.70



Pull out test

Test Product:	-
Part Name:	SW80
Part No.:	-
Material Specification:	-
Dimension:	-
Received Date:	02 / May / 2024
Tested Date:	17 / May / 2024

Test No.	Max Load. (N)	Max Load. (kgf)
1	13,630.487	1,389.448



Bending test

Part Name:	SW80
Part No.:	-
Lot No. :	-
Material Specification:	Raw Material
Dimension:	-
Received Date:	18 / Jun. / 2024
Tested Date:	20 / Jun. / 2024

Test No.	Former Diameter (mm)	Distance Between Rollers (mm)	Max. Load (kN)	Max. Load (kgf)
1	40.0	280.0	97.461	9,938.313

