



DATA SHEET – RAP HEAVY DUTY

FEATURES

- Printed with PVC-free Polyolefin mixtures
- Made by injection moulding process
- Ideal for heavy reinforcement
- Production standard: 1 and 2 meter bars
- Equipped with special slots on the back and sides to allow the passage of concrete
- It can be used by placing it with the legs up, for spacing rebar on insulation panels



USAGE

- Structures in vibrated reinforcement concrete and prestressed reinforced concrete
 - Pillars
 - Beams
 - Bridge beams
- Civil construction
 - Floor slabs
 - Beams
 - Foundations
 - Industrial flooring



ADVANTAGES

- Laying speed
- Great load resistance: 600 kg/m² (two bars spaced 1 m)
- Excellent stability to footfall
- Great facades
- Range of use depending on outdoor temperatures without changes in characteristics: -30 °C / +45 °C



PLASTYPIEMONTE s.r.l.

Sede Legale: Via Susa 23/bis – 10138 Torino (TO), Italia

Sede Operativa: Frazione Mezzi Po 98/C 10036 Settimo Torinese (TO), Italia

Tel: (+39) 011 998 3197 • Fax: (+39) 011 997 3258 • e-mail: info@plastypiemonte.it

PEC: plastypiemonte@cert.unonet.it • Sito web: plastypiemonte.it

CF/P.IVA: 07992370010 • R.E.A. della C.C.I.A.A. TO 937475 • R.I. TO – 2000 – 101182

Capitale sociale i.v. € 95.000,00



DIMENSIONS AND PACKAGING

Code	Description	M / Package	M / Pallet	Pallet weight (kg)
RAP25L100-HD	RAP 25 L 100 cm HEAVY DUTY	50,00	6.300,00	650,00
RAP30L100-HD	RAP 30 L 100 cm HEAVY DUTY	50,00	6.300,00	660,00
RAP25L200-HD	RAP 25 L 200 cm HEAVY DUTY	100,00	5.600,00	570,00
RAP30L200-HD	RAP 30 L 200 cm HEAVY DUTY	100,00	5.600,00	580,00

LOAD TESTS

MODEL RAP – REV. 6

Below is the simulation of the **RAP Model – Rev. 6**. The same uniform load of 600 kg has been applied to the upper face (coloured in blue in the following image), as was used in the previous simulation.

The 600 kg load applied per linear meter of the RAP was calculated by assuming the pressure exerted by an operator's shoe on the piece. Considering the operator's weight of approximately 80 kg and a footprint width of about 13 cm (7.5 footprints per linear meter), the calculation is as follows: $80 \text{ [kg]} \cdot 7.5 = 600 \text{ kg}$



Figure 1



PLASTYPIEMONTE s.r.l.

Sede Legale: Via Susa 23/bis – 10138 Torino (TO), Italia

Sede Operativa: Frazione Mezzi Po 98/C 10036 Settimo Torinese (TO), Italia

Tel: (+39) 011 998 3197 • Fax: (+39) 011 997 3258 • e-mail: info@plastypiemonte.it

PEC: plastypiemonte@cert.unonet.it • Sito web: plastypiemonte.it

CF/P.IVA: 07992370010 • R.E.A. della C.C.I.A.A. TO 937475 • R.I. TO – 2000 – 101182

Capitale sociale i.v. € 95.000,00



The piece is considered fixed (all movement is prevented) at the junction clips. The male clip has been removed due to a geometric issue; however, this does not affect the piece's performance in terms of resistance.

All the fins are considered to be resting on the ground and frictionless (they can move within the plane of the floor). They are not laterally constrained, meaning they are free to “flare.”

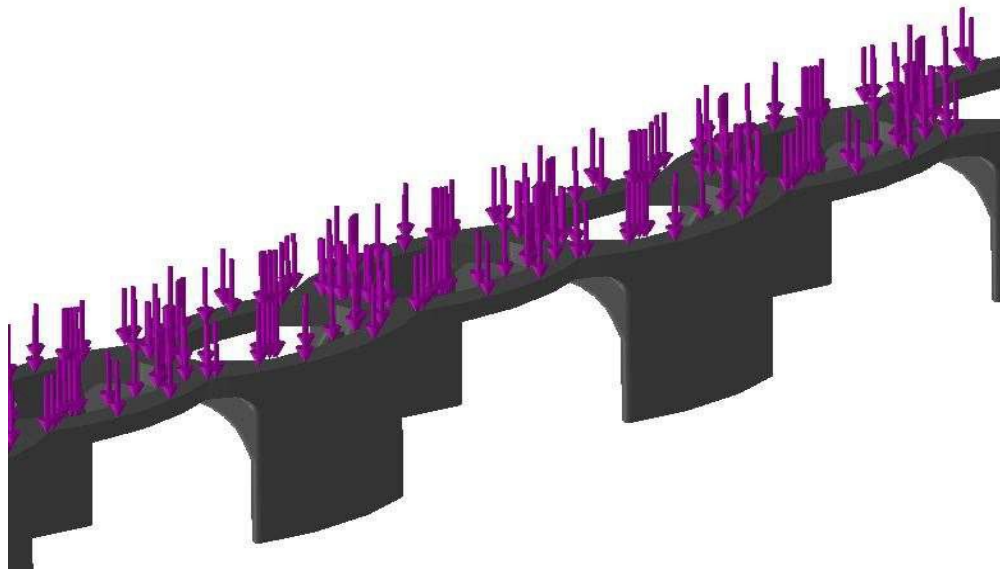


Figure 2

Material:

The calculations presented below were performed on Skyplen MT grey, a material from the company PreZero.

Calculations:

With a 600 kg load, the following situation arises:

The piece has a significant resistance. From the following image, some observations can be made:

- The coloration indicates that the structure performs well and that there are no areas under stress approaching the yield limit. Additionally, there is a good margin before reaching the yield load
- The stress labels (see the row “Value: N/mm² [MPa]”) indicate that the highest values are present in the lower rib (vault-shaped) and in the stiffening frame. These values are entirely acceptable



PLASTYPIEMONTE s.r.l.

Sede Legale: Via Susa 23/bis – 10138 Torino (TO), Italia

Sede Operativa: Frazione Mezzi Po 98/C 10036 Settimo Torinese (TO), Italia

Tel: (+39) 011 998 3197 • Fax: (+39) 011 997 3258 • e-mail: info@plastypiemonte.it

PEC: plastypiemonte@cert.unonet.it • Sito web: plastypiemonte.it

CF/P.IVA: 07992370010 • R.E.A. della C.C.I.A.A. TO 937475 • R.I. TO – 2000 – 101182

Capitale sociale i.v. € 95.000,00



Figure 3

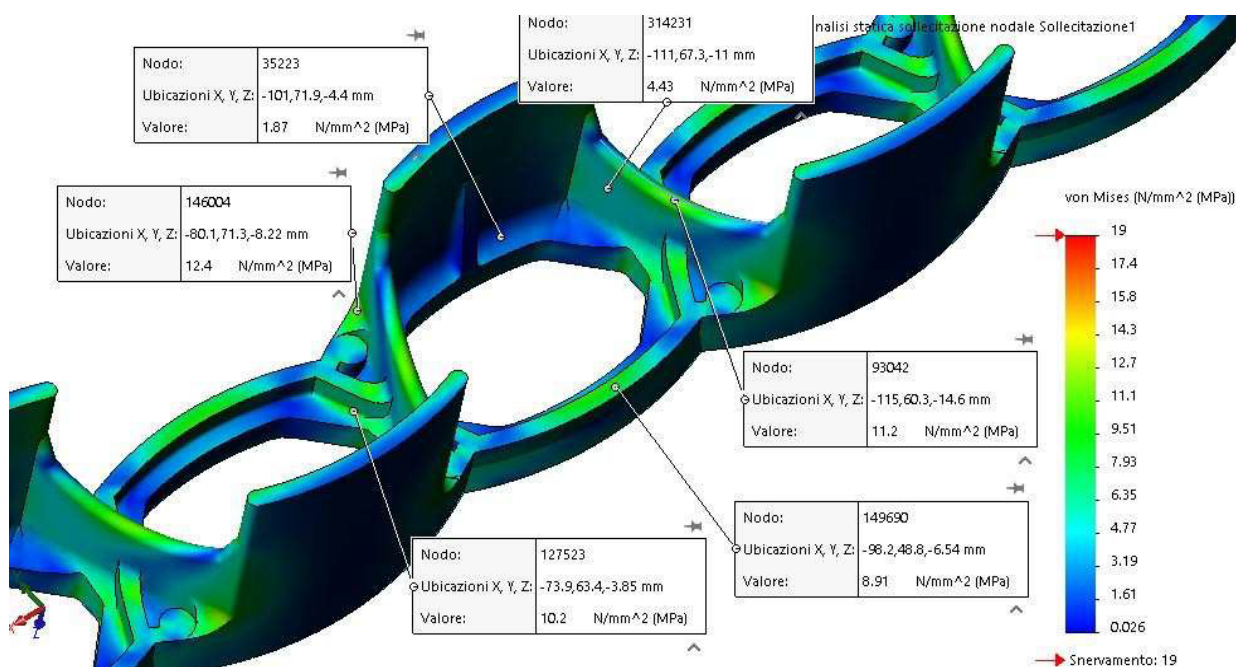


Figure 4



PLASTYPIEMONTE s.r.l.

Sede Legale: Via Susa 23/bis – 10138 Torino (TO), Italia

Sede Operativa: Frazione Mezzi Po 98/C 10036 Settimo Torinese (TO), Italia

Tel: (+39) 011 998 3197 • Fax: (+39) 011 997 3258 • e-mail: info@plastypiemonte.it

PEC: plastypiemonte@cert.unonet.it • Sito web: plastypiemonte.it

CF/P.IVA: 07992370010 • R.E.A. della C.C.I.A.A. TO 937475 • R.I. TO – 2000 – 101182

Capitale sociale i.v. € 95.000,00

Even in the upper part, the stresses are well distributed.

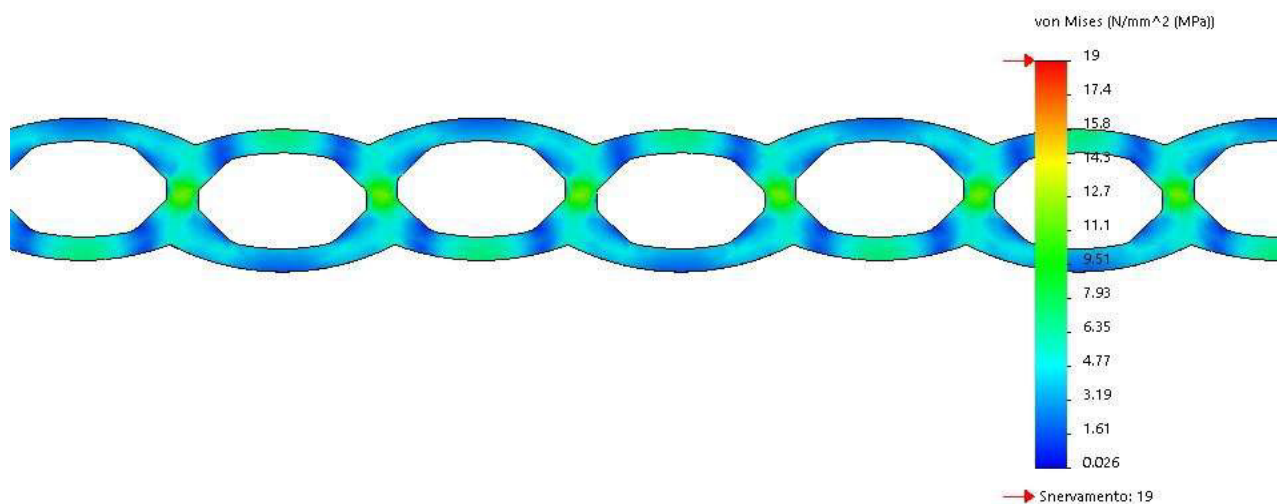


Figure 5

The labels in the following figure highlight that the highest stresses occur at the vault. Following that, there are stresses in the overhanging areas without feet and the lowest stresses are at the feet.

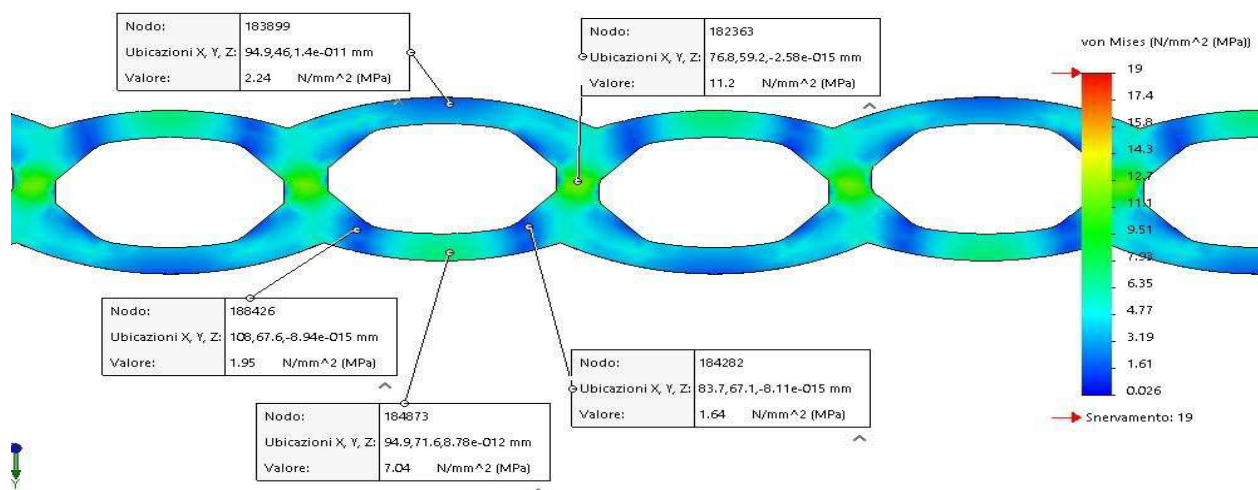


Figure 6



PLASTYPIEMONTE s.r.l.

Sede Legale: Via Susa 23/bis – 10138 Torino (TO), Italia

Sede Operativa: Frazione Mezzi Po 98/C 10036 Settimo Torinese (TO), Italia

Tel: (+39) 011 998 3197 • Fax: (+39) 011 997 3258 • e-mail: info@plastypiemonte.it

PEC: plastypiemonte@cert.unonet.it • Sito web: plastypiemonte.it

CF/P.IVA: 07992370010 • R.E.A. della C.C.I.A.A. TO 937475 • R.I. TO – 2000 – 101182

Capitale sociale i.v. € 95.000,00



Regarding the deformation, there are displacements along the Z-axis. In particular, the areas experiencing the greatest displacements are the overhanging ones, lacking the support of feet.

However, the deformations (coloured in blue) are about 0.2 mm, where the “-” sign indicates that the displacement is directed downward.

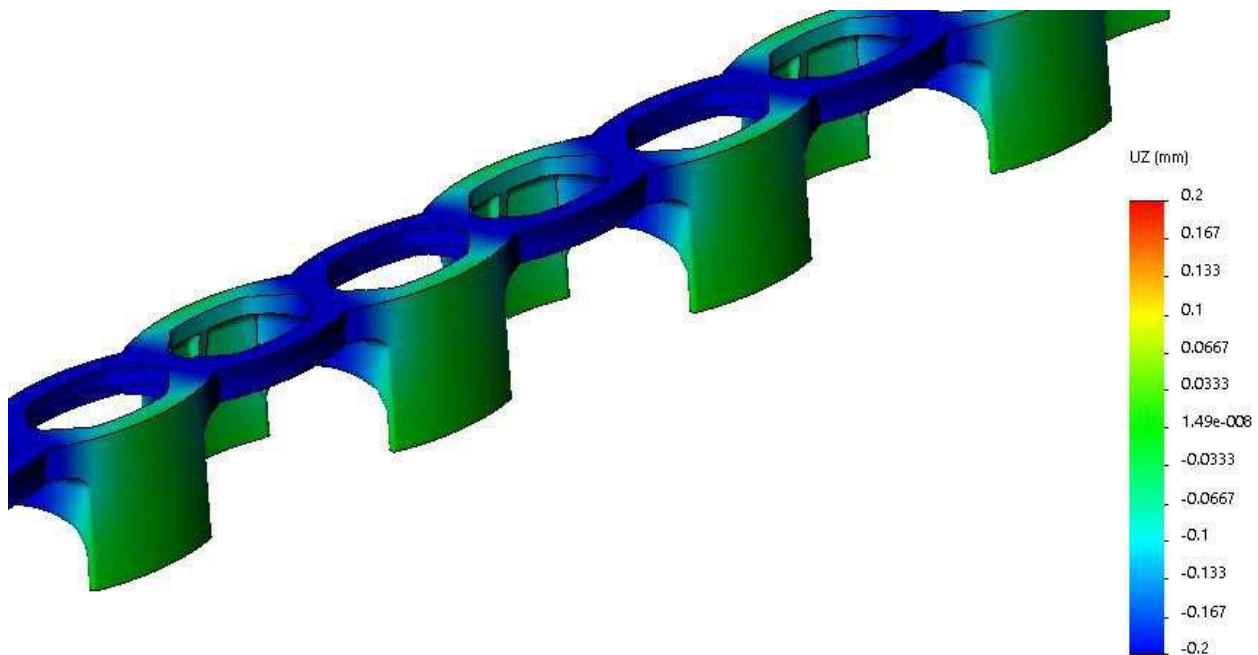


Figure 7

Conclusions:

The examined piece demonstrates very good resistance.

The stresses are acceptable, and the most stressed points are those corresponding to the lower arch, as expected.



PLASTYPIEMONTE s.r.l.

Sede Legale: Via Susa 23/bis – 10138 Torino (TO), Italia

Sede Operativa: Frazione Mezzi Po 98/C 10036 Settimo Torinese (TO), Italia

Tel: (+39) 011 998 3197 • Fax: (+39) 011 997 3258 • e-mail: info@plastypiemonte.it

PEC: plastypiemonte@cert.unonet.it • Sito web: plastypiemonte.it

CF/P.IVA: 07992370010 • R.E.A. della C.C.I.A.A. TO 937475 • R.I. TO – 2000 – 101182

Capitale sociale i.v. € 95.000,00