



Nevicolor Webinar #3

Le nervature nella progettazione di articoli in plastica - 1

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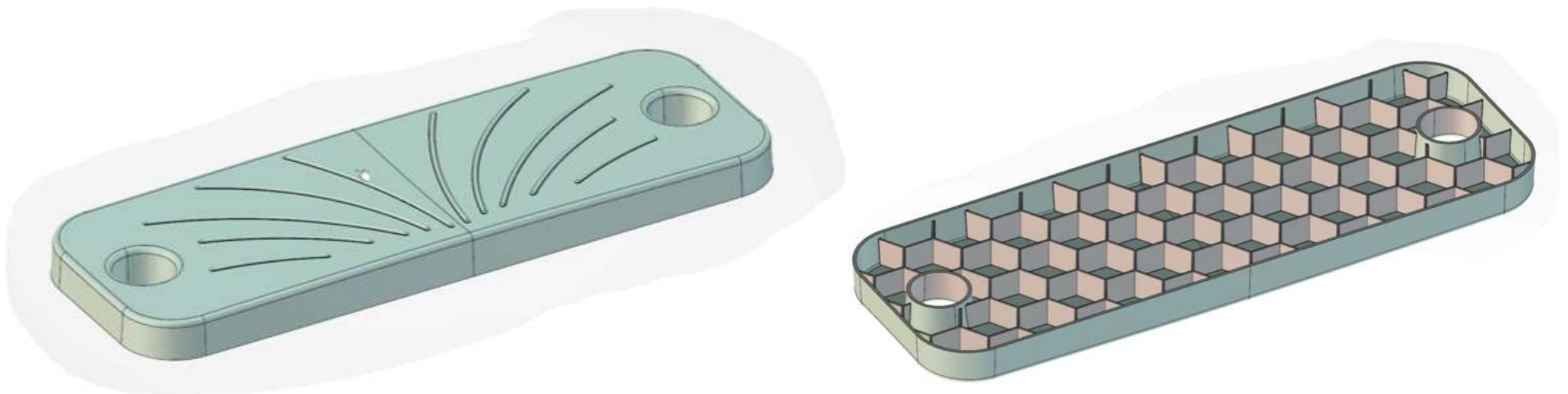
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Giuseppe Crippa

Application Development Consultant

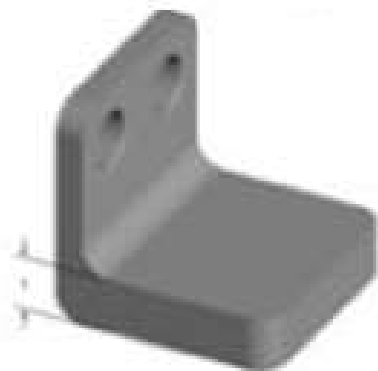


Come «irrigidire» un pezzo

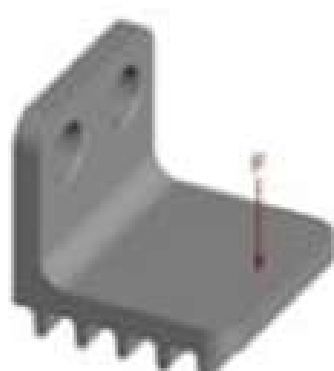


Spesso l'estetica di un pezzo è affidata ad una faccia,
la sua solidità strutturale alla faccia opposta.

Come «irrigidire» un pezzo



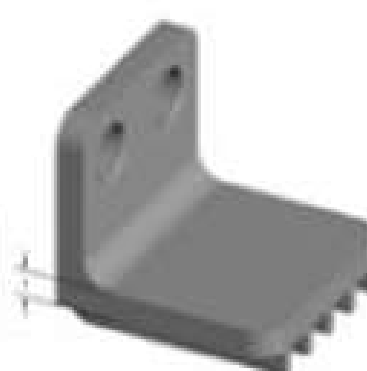
**Pezzo
troppo spesso**



**Nervature
male orientate**



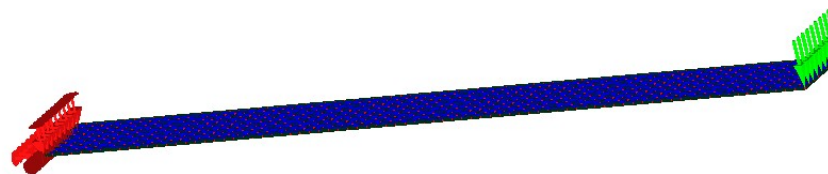
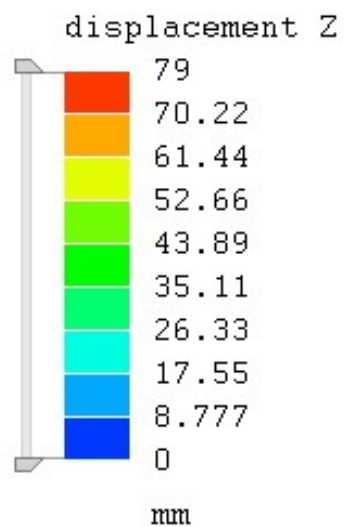
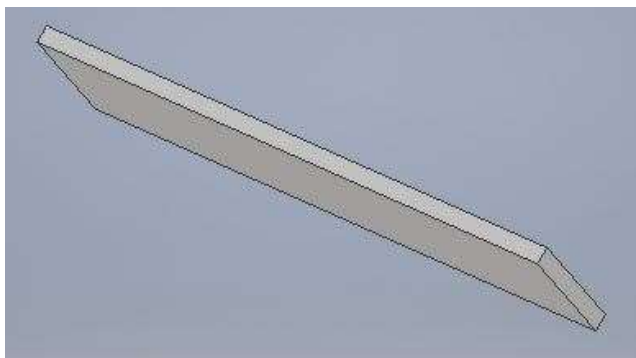
**Nervature
troppo spesse**
(e quindi visibili
sulla superficie)



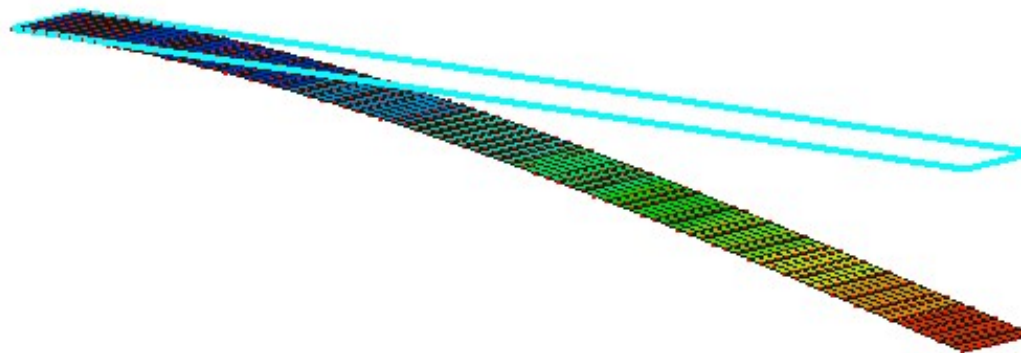
**Nervature
corrette**

Per irrigidire un pezzo senza appesantirlo le nervature devono essere disposte correttamente e non lasciare una traccia della loro presenza.

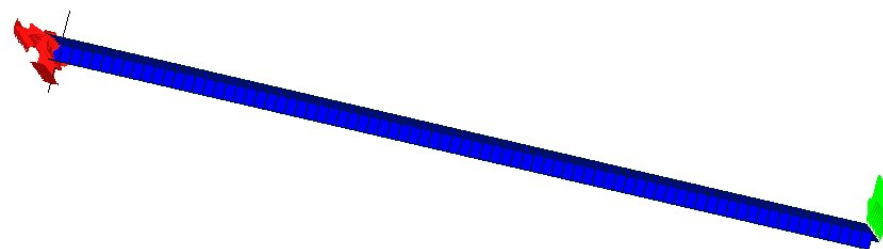
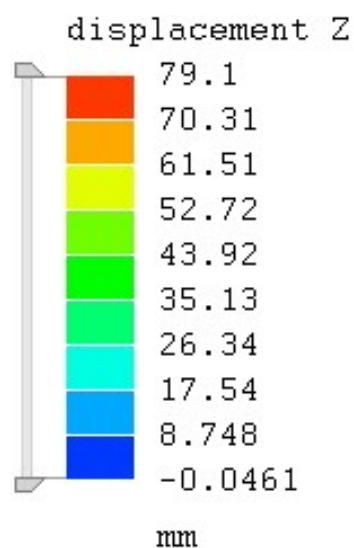
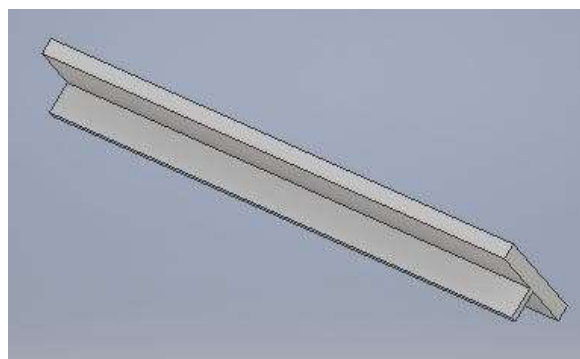
Lastina piana



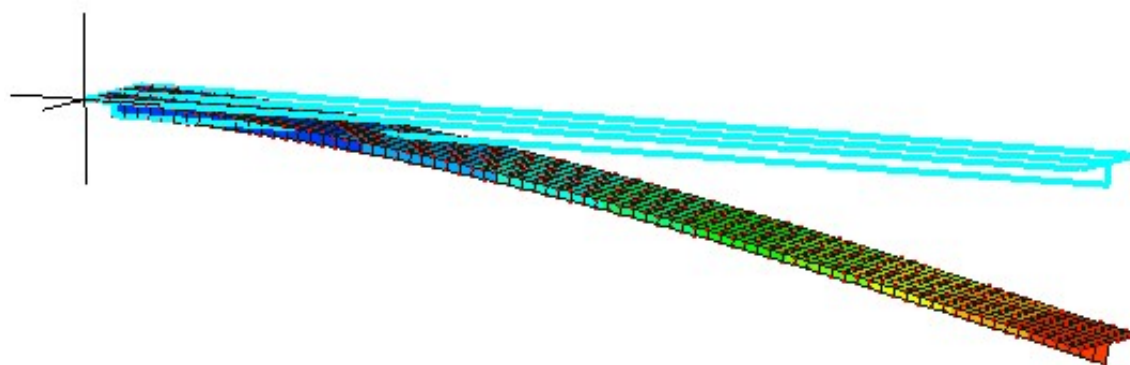
Una lastrina in PA6 GF50, lunga 500 mm, larga 50 mm e spessa 5 mm, pesante 195 g, incastrata ad una estremità e sottoposta ad un carico di 1 kg (10 N), flette di circa **80 mm**.



Nervatura longitudinale

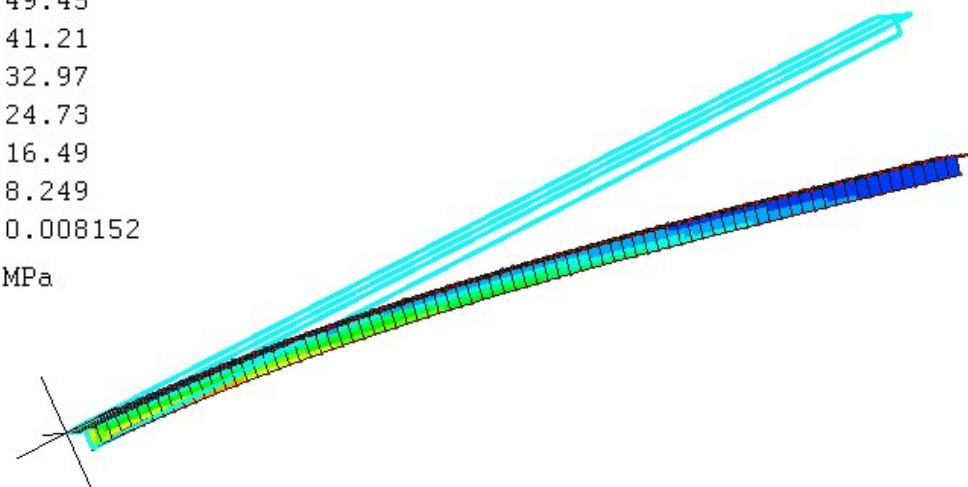
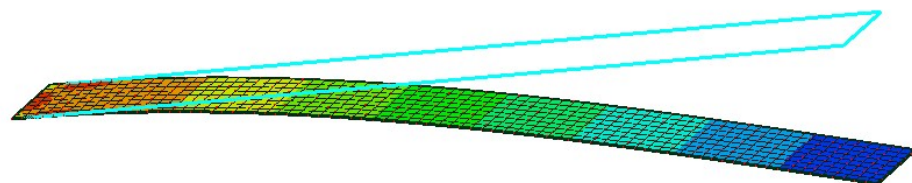
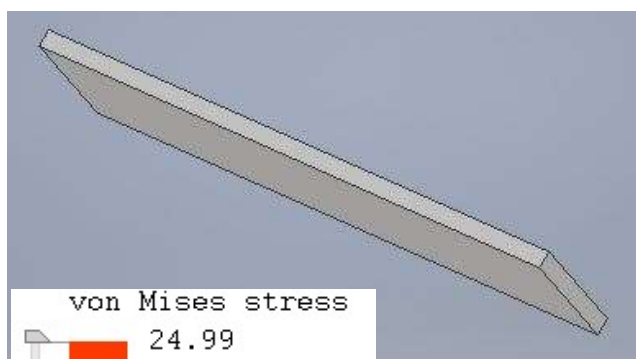


Una lastrina in PA6 GF50, lunga 500 mm, larga 50 mm e spessa 3 mm, con una nervatura longitudinale alta 10 mm e spessa 1,5 mm, pesante 129 g, incastrata ad una estremità e sottoposta ad un carico di 1 kg, flette di anch'essa di circa **80 mm**.

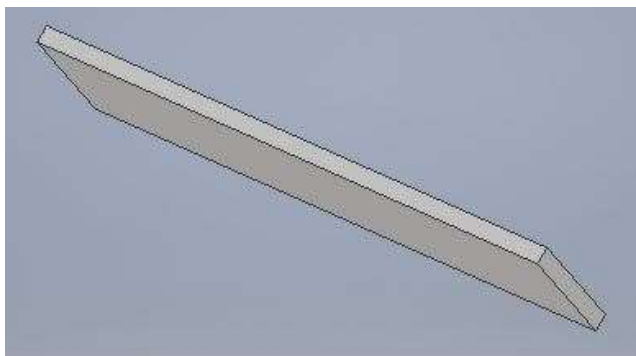


Carico verticale – Confronto stress

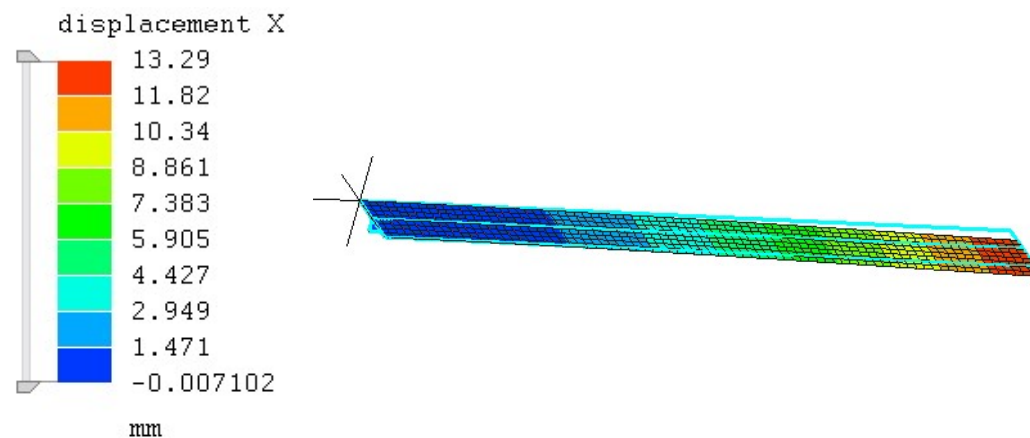
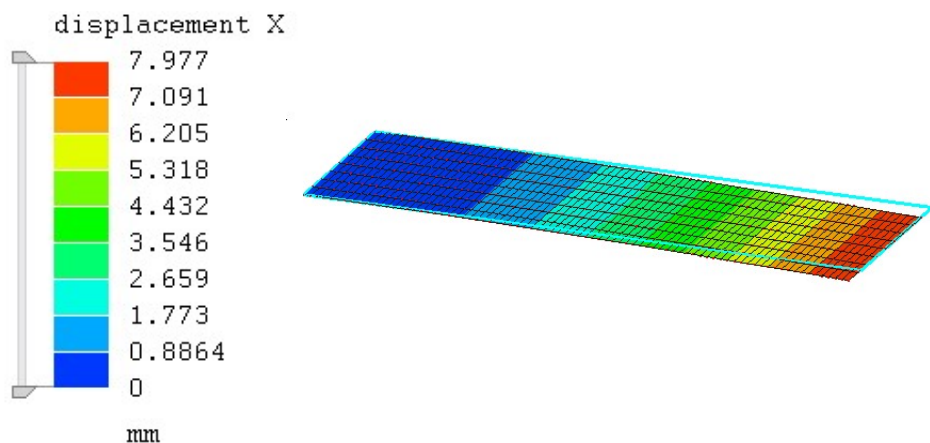
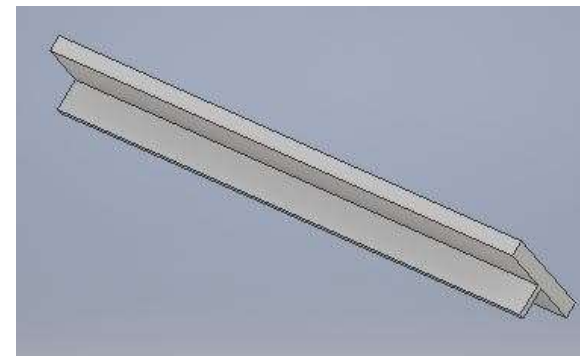
La nervatura si fa carico di sopportare la maggior sollecitazione. La capacità di resistere del materiale è quindi meglio sfruttata.



Carico laterale – Confronto deflessioni

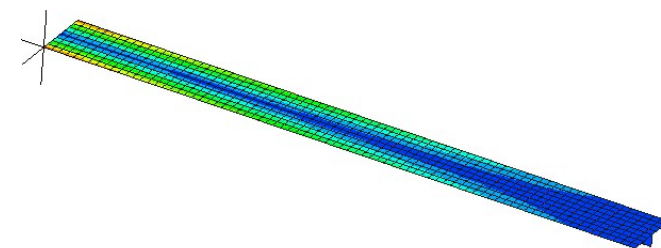
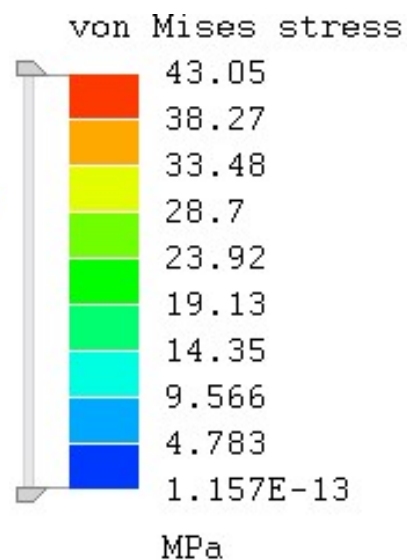
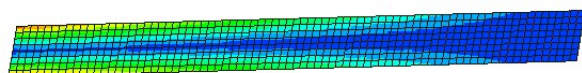
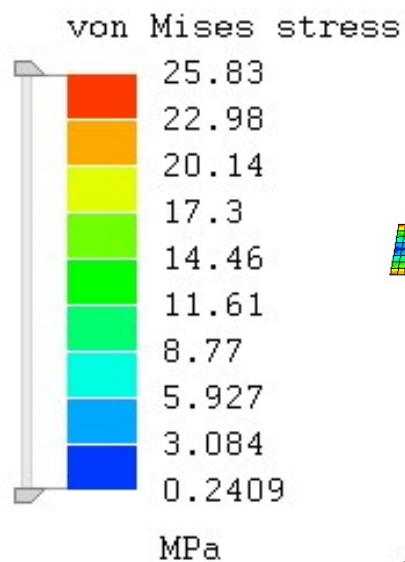
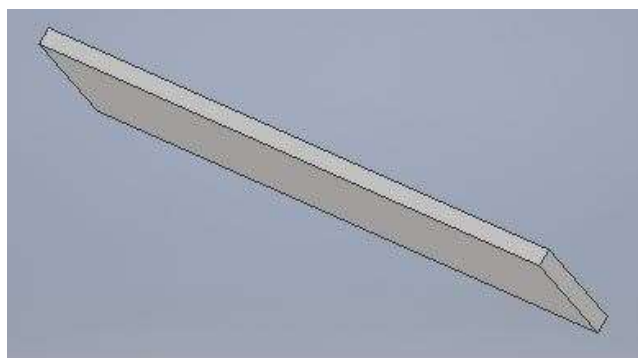


Però nel caso di una sollecitazione laterale (nell'esempio è di 10 kg) la lastrina nervata non lavora altrettanto bene e si deforma del 40% in più rispetto alla lastrina piatta....

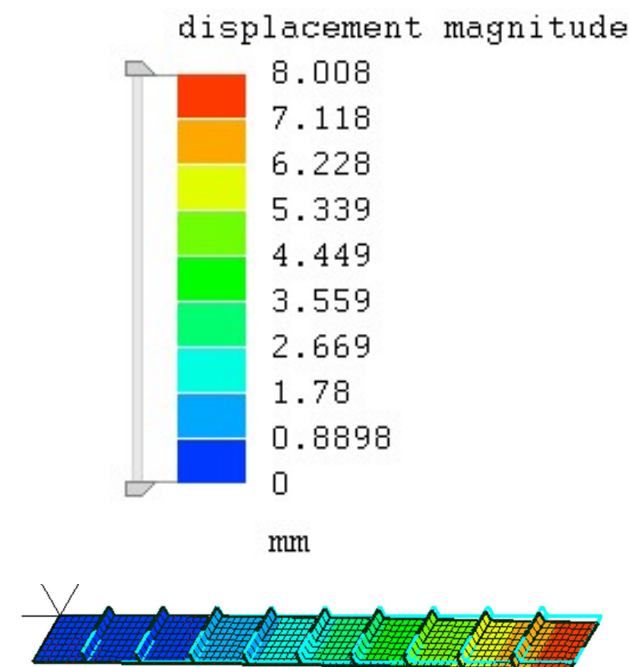
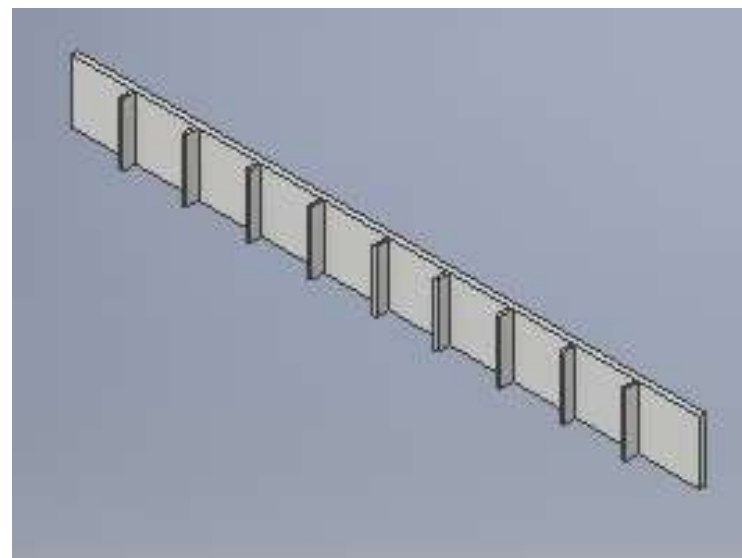
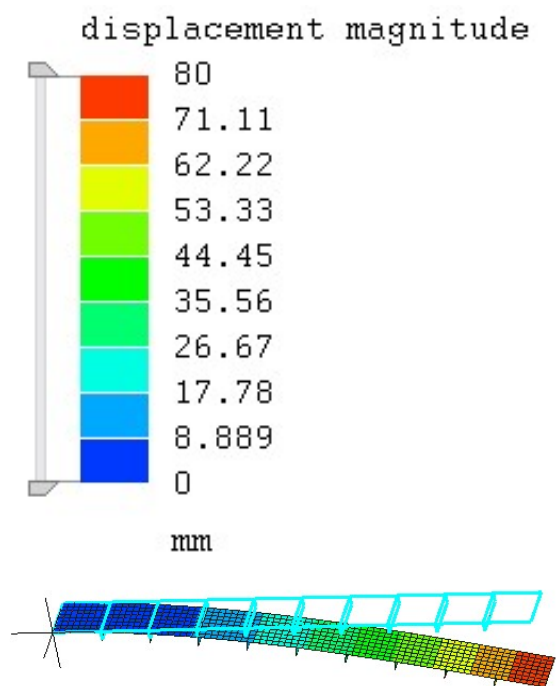


Carico laterale – Confronto stress

... e questo nonostante lo sforzo
soportato dalla lastrina nervata
sia più elevato.

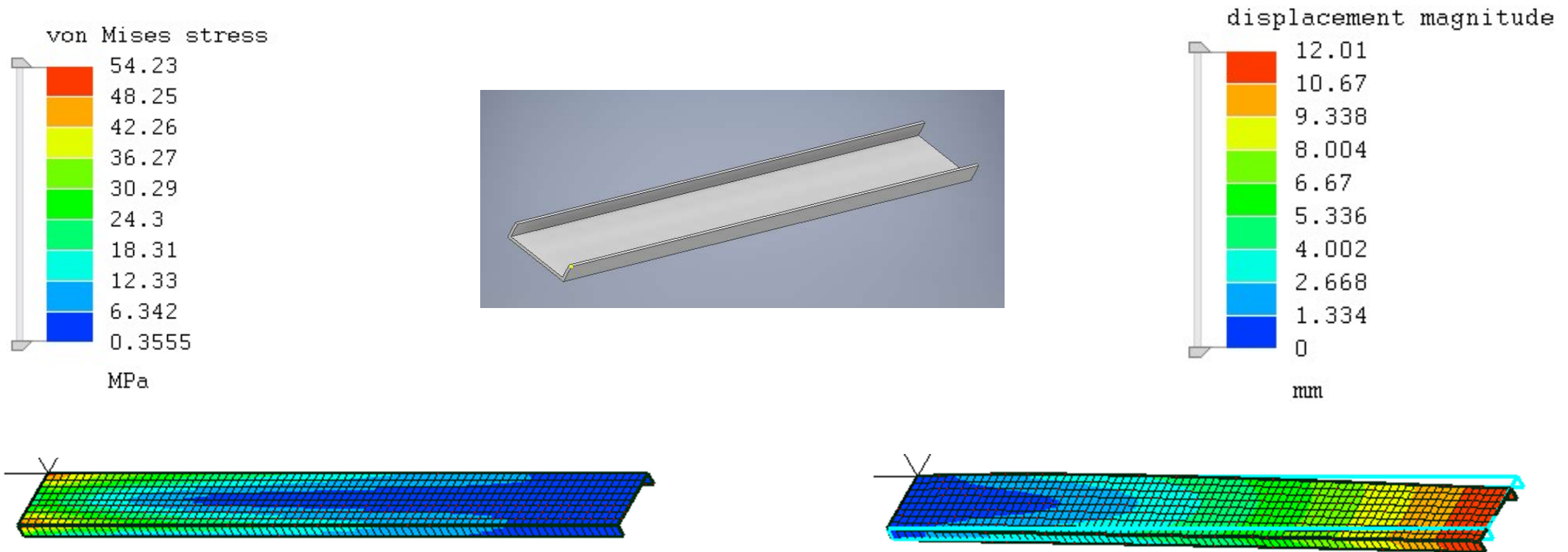


Nervature trasversali



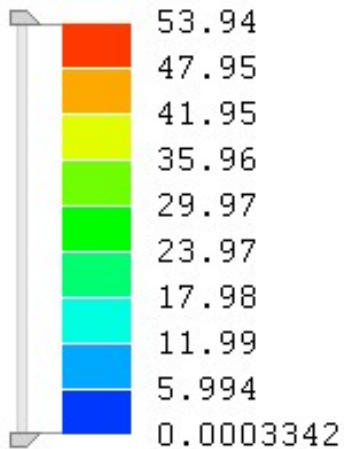
Nel caso di carico verticale (10 N) le nervature trasversali sono praticamente ininfluenti.
E lo sono anche nel caso di carico laterale (100 N).

Nervature trasversali «legate»

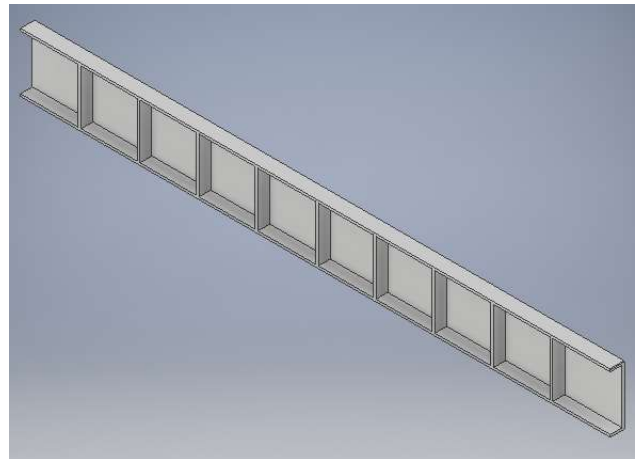


Nervature trasversali «legate»

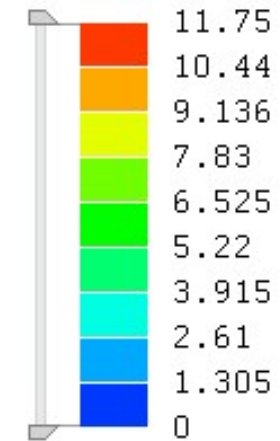
von Mises stress



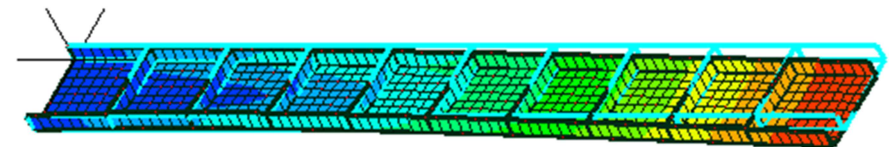
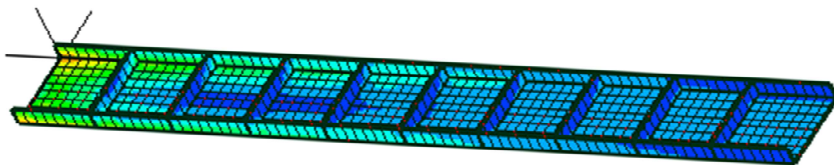
MPa



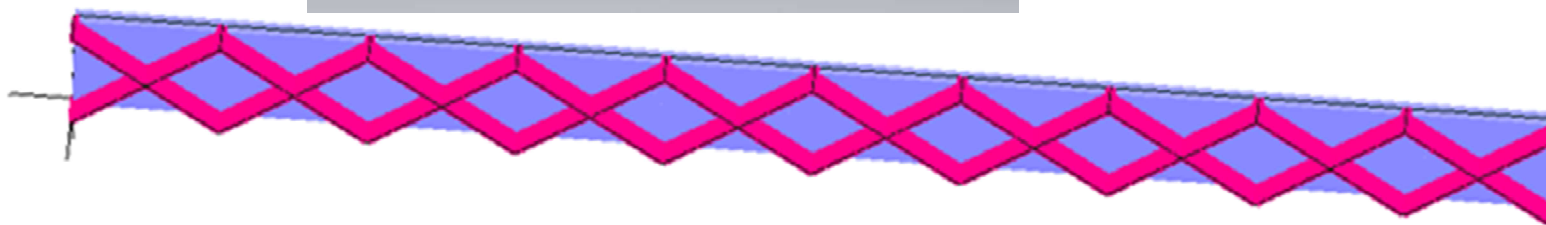
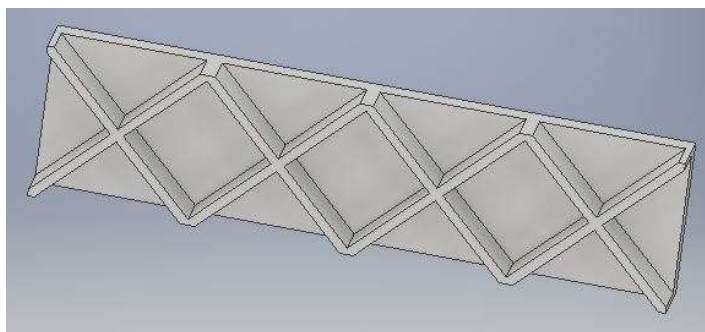
displacement magnitude



mm



Nervature «diagonali»



I prodotti di Nevicolor

Ixef® PARA

Ryton® PPS

Amodel® PPA

Omnix® HPPA

Ketaspire® PEEK

Avaspire® PAEK

Solef® PVDF

Halar® ECTFE

Hyflon® PFA/MFA®

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distribuiti da
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**Prodotti
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Nevifood® FDA-EU

Nevimed® 10993-5

Nevieco® 10667

Nevies® ABS

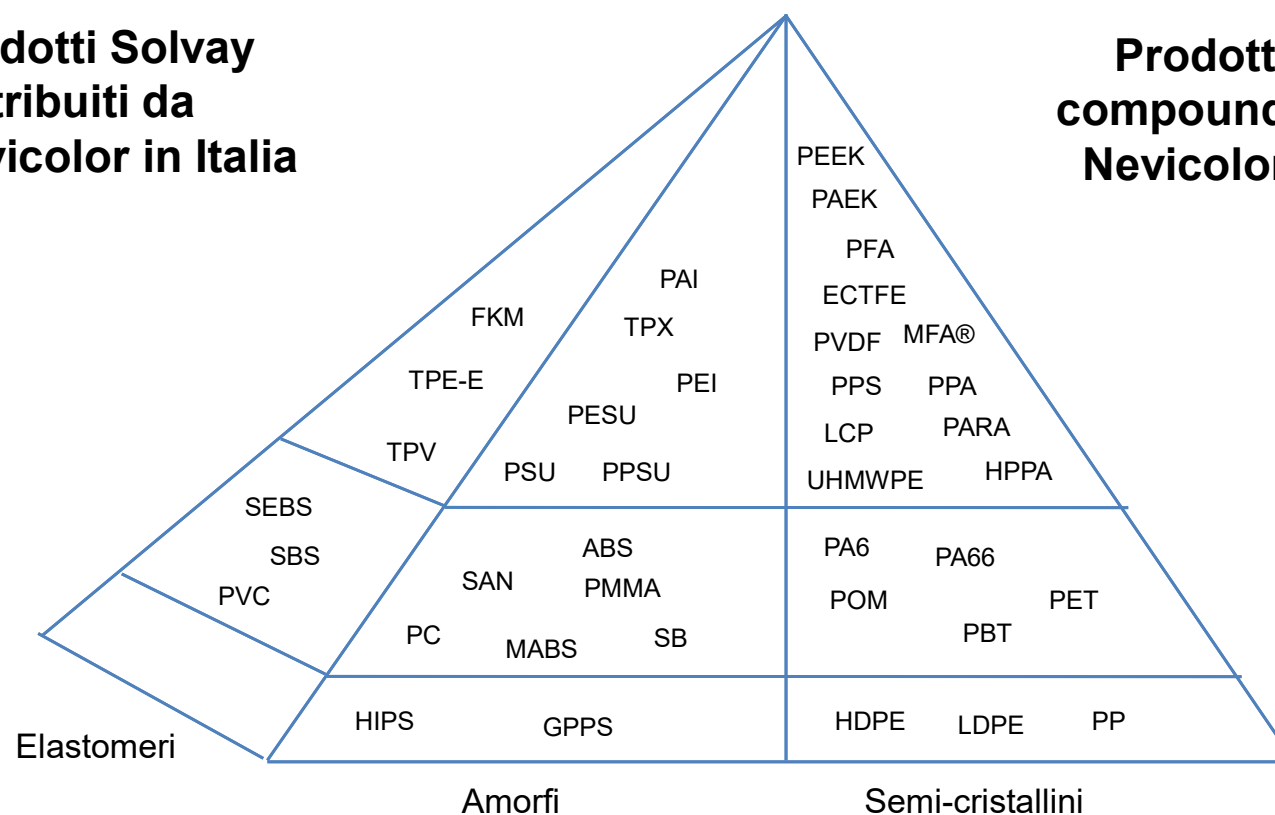
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Via Maso, 27 - 42045 Luzzara (RE)



0522 976421



info@nevicolor.it



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