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Nel cuore del rullo

Ottimizzazione del sovrastampaggio della testata Interroll

Interroll SA

Moldex3D

Interroll

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18,200
Clienti

Fondata nel
1959

36
aziende

Quartier generale in Svizzera

2,400
Collaboratori

16
Impianti produttivi

Interroll SA ***Global Competence Center*** per progettazione stampo, produzione e montaggio articoli in tecnopolimero

1986	Fondazione	Presse	**27**
47	Employees	Setup stampo	**1.200**
20	Fatturato (mln CHF)	Parti prodotte	**90 M**

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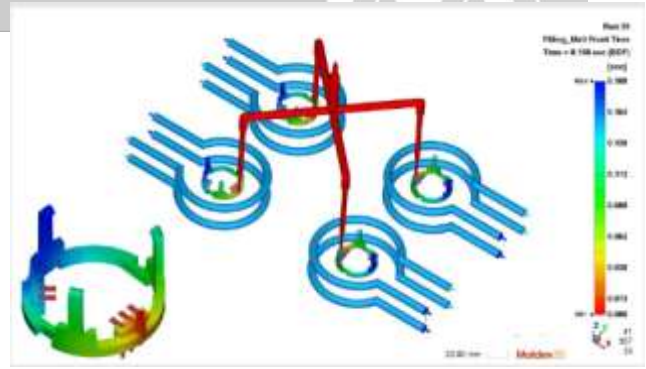
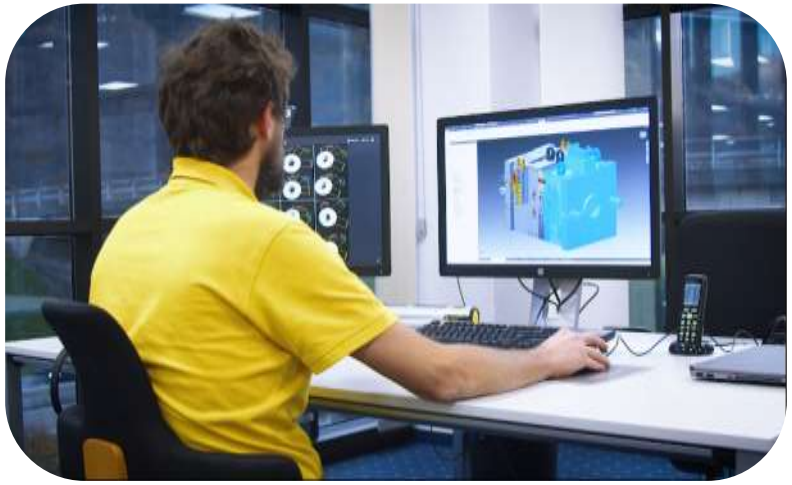
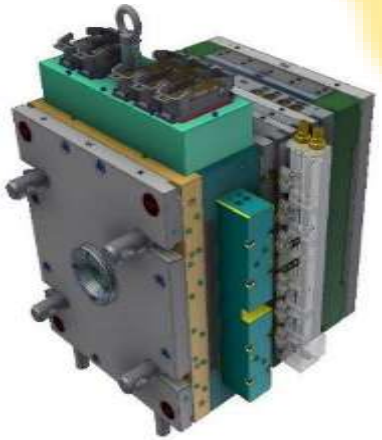
Sin dagli inizi, Interroll SA si è contraddistinta per il suo R&D per l'ingegnerizzazione prodotto e per il design degli stampi







Moldex3D

La sfida del rullo Interroll

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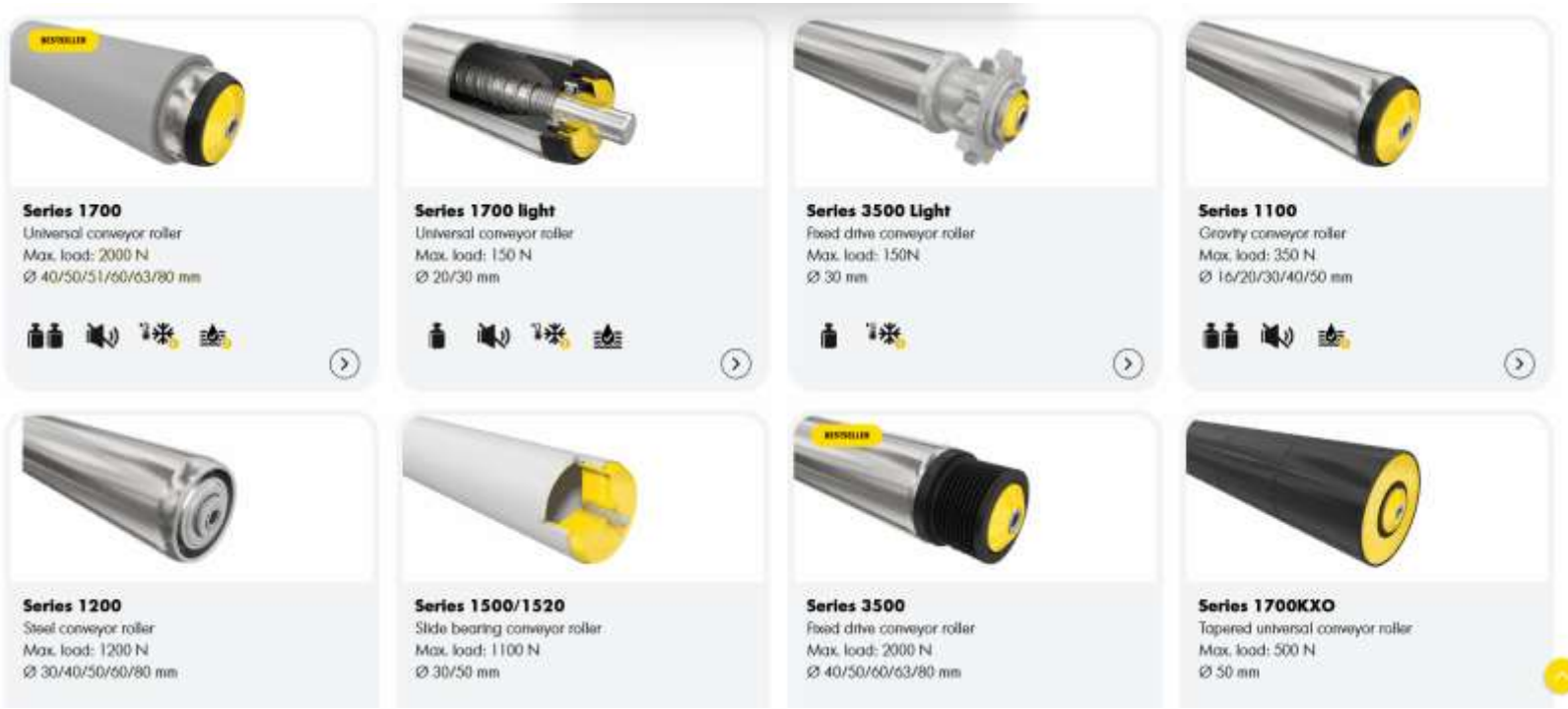
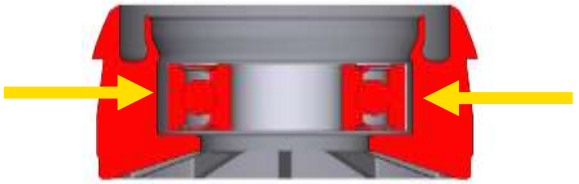
Dalla sua fondazione, Interroll ha prodotto nel corso della sua storia piu di 500 milioni di rulli



Housing in PA6/66

Cuscinetto sovrastampato

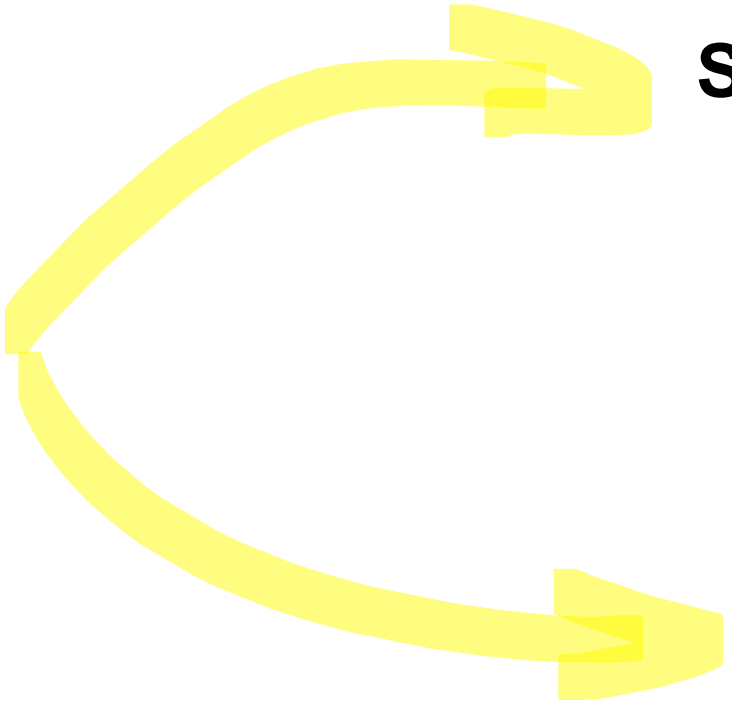


Ritiro a caldo del materiale sul cuscinetto (quindi evito differenti diametri all'interfaccia tra housing e cuscinetto) → meno eccentricità, no rumore durante uso e prematuro consumo

Il cuscinetto viene pressato con pressa pneumatica, materiale attuale ha elastomero per evitare rotture; possiamo **usare materiale meno nobile** e ottimizzare costi

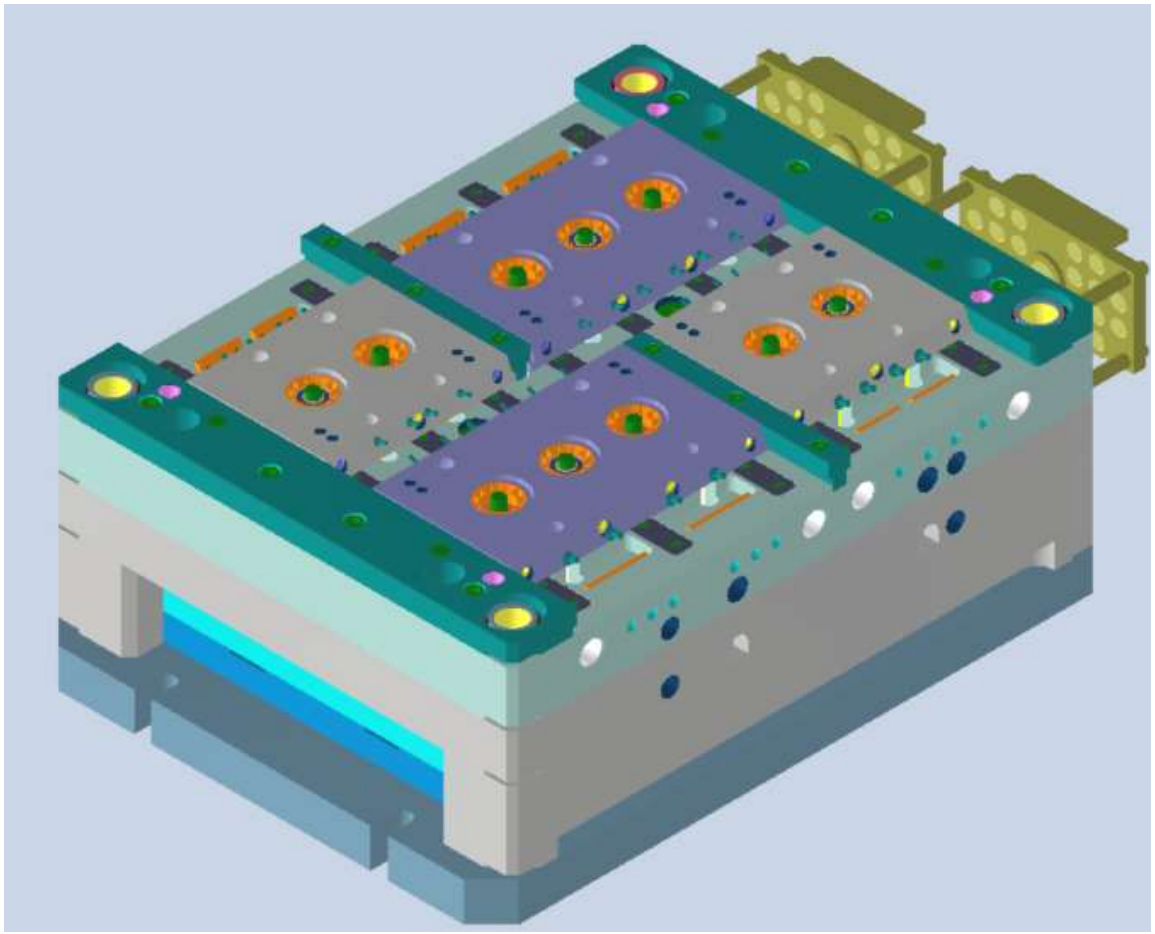
Forniamo al cliente prodotto già **ready to use** da assemblare (dismissione macchina di montaggio)

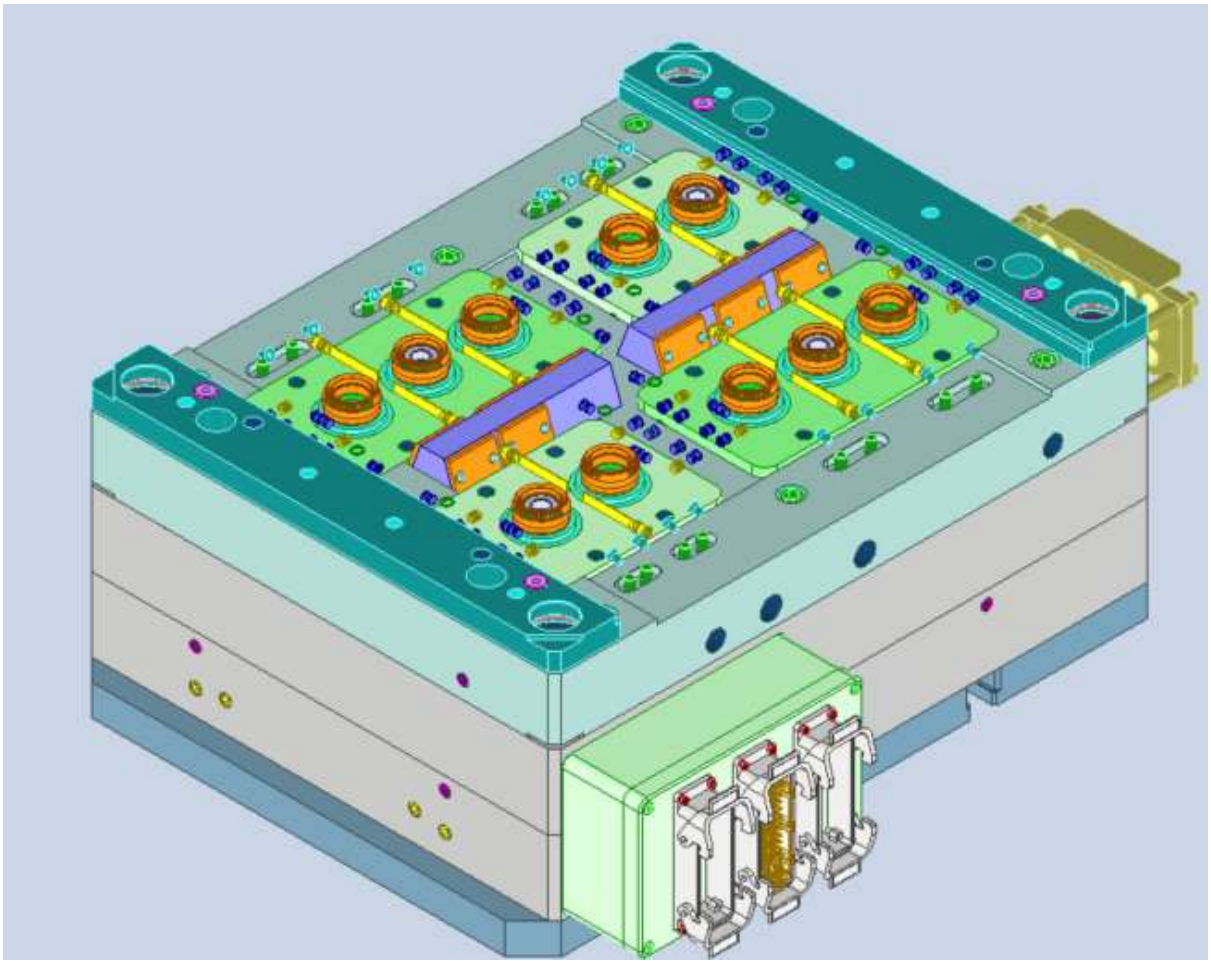
Perchè questa analisi?



Stampo con canale caldo a 10 cavità

Geometria rivista per permettere sovrastampaggio cuscinetto





L’analisi con Moldex3D

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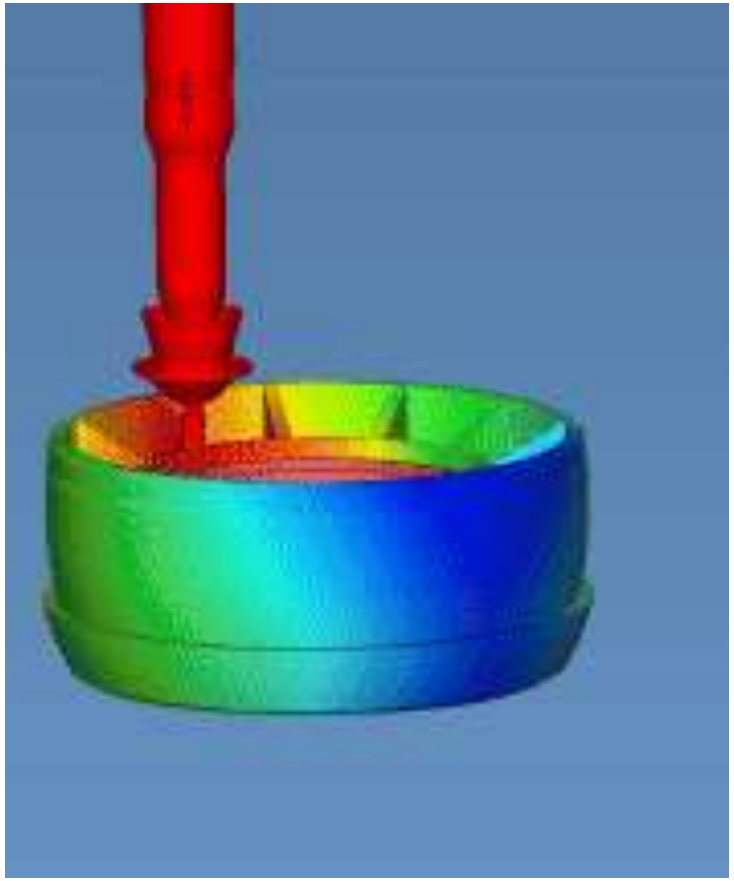
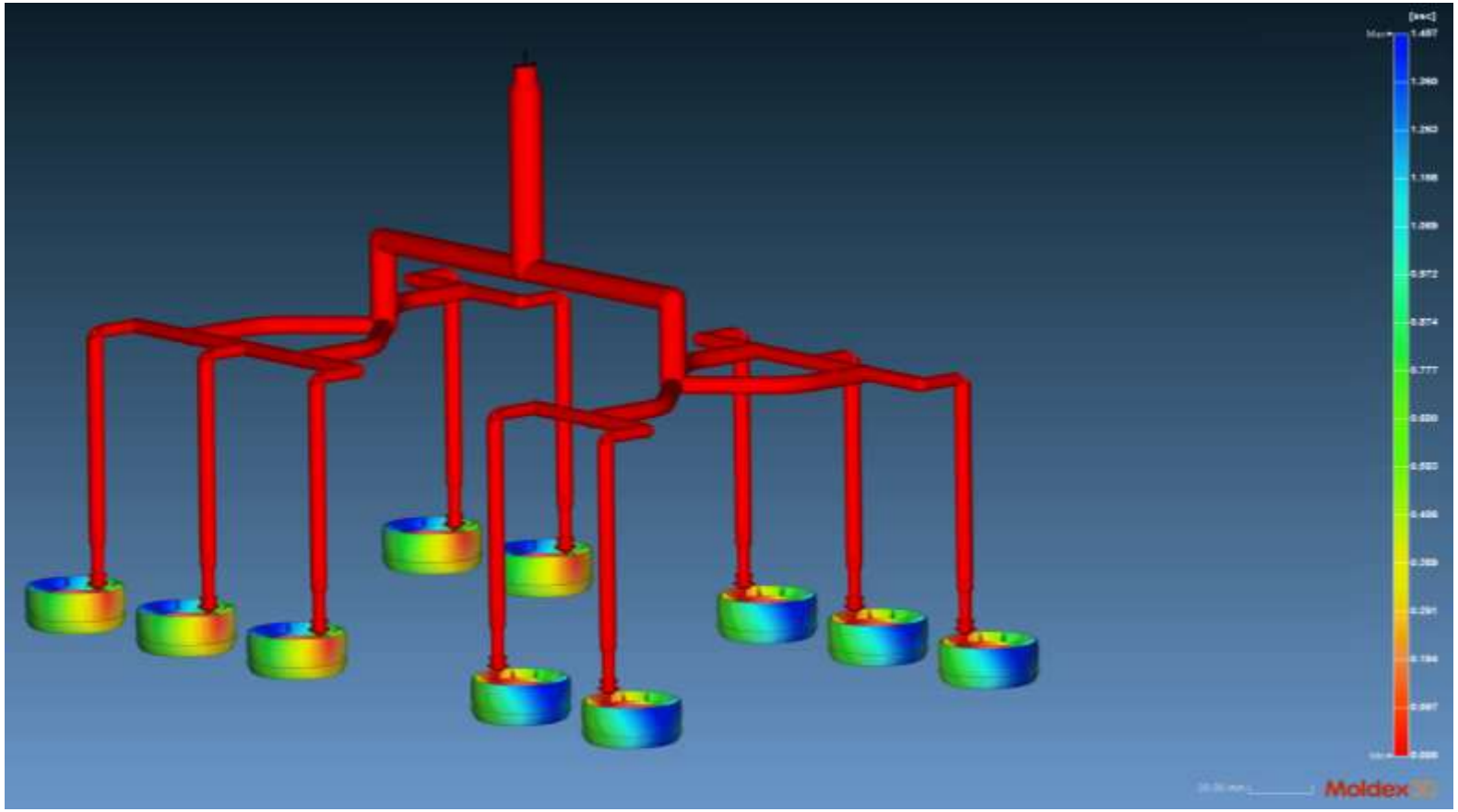
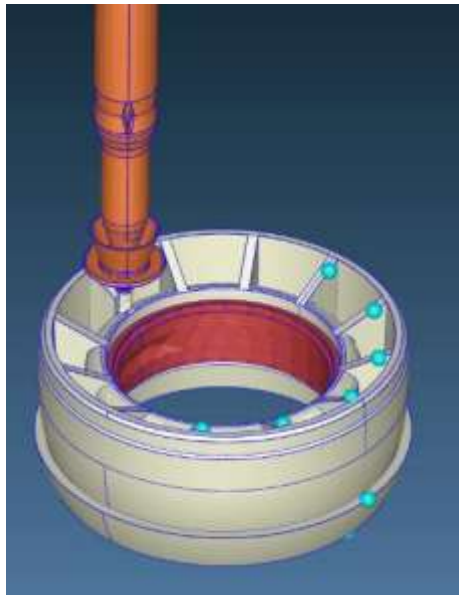
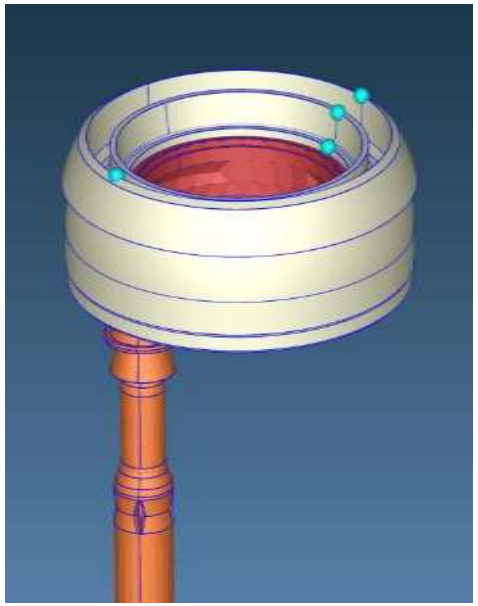
Riempimento





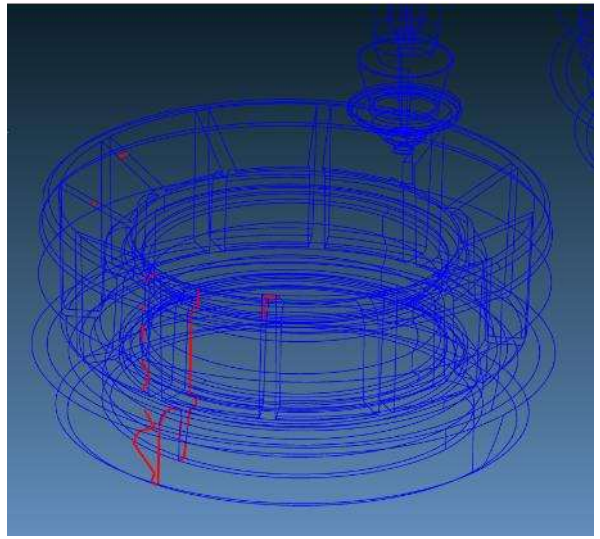
Riempimento

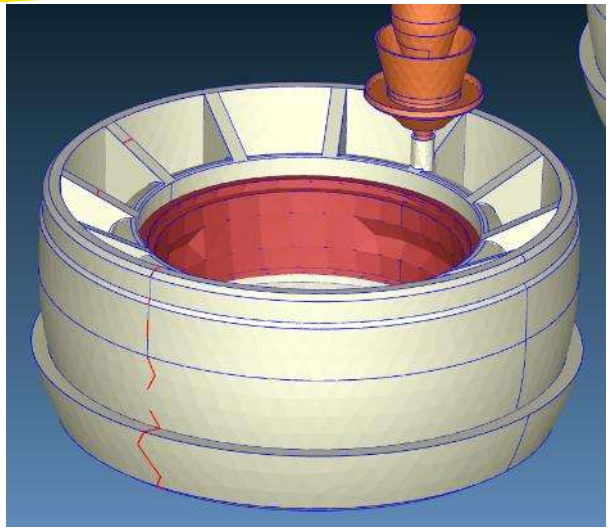




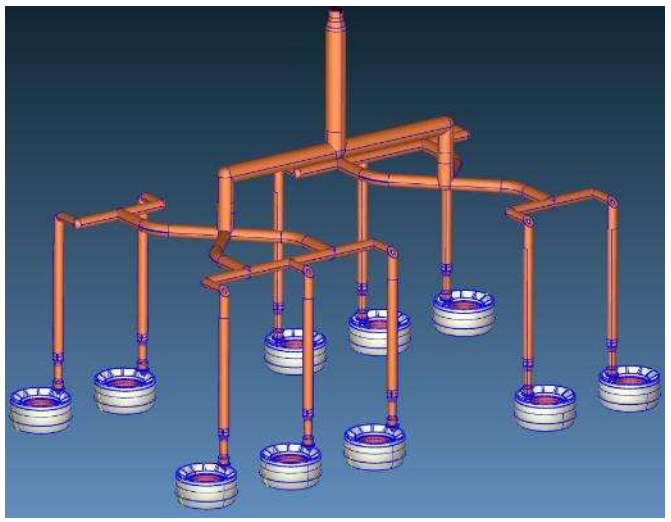
Intrappolamenti d’aria

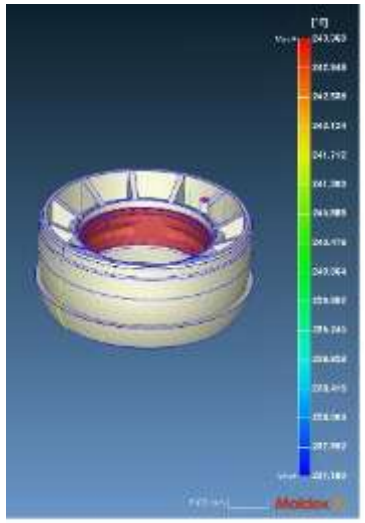
Linee di giunzione

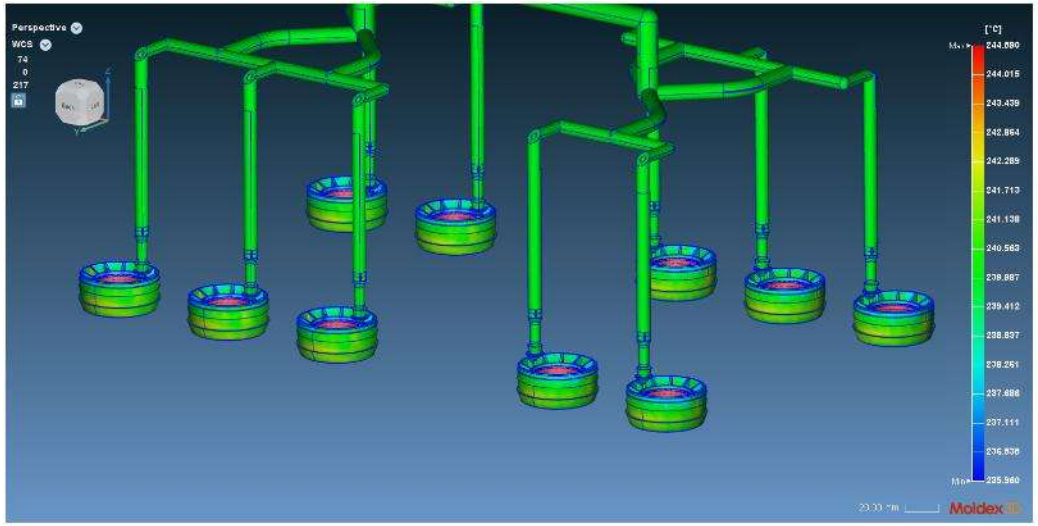


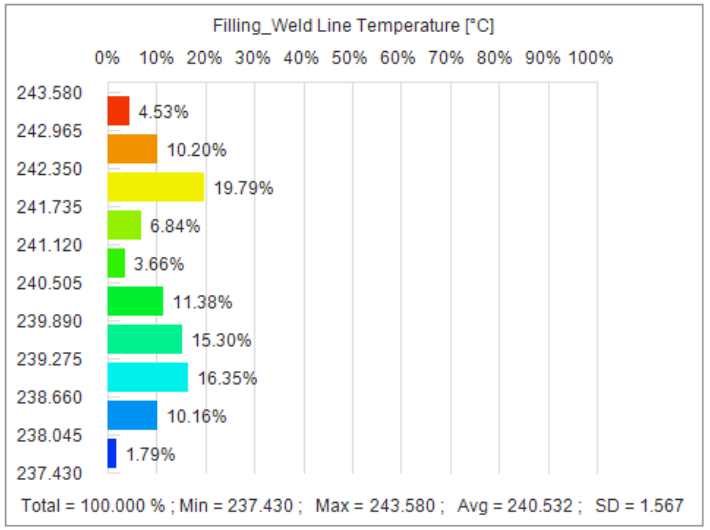


Riempimento

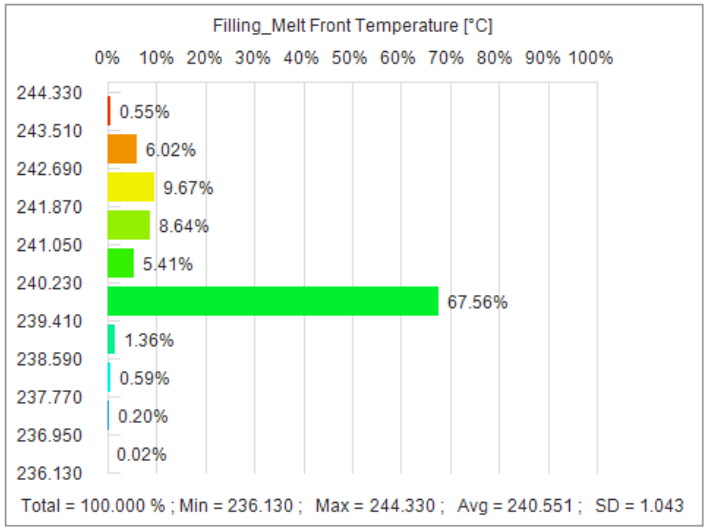






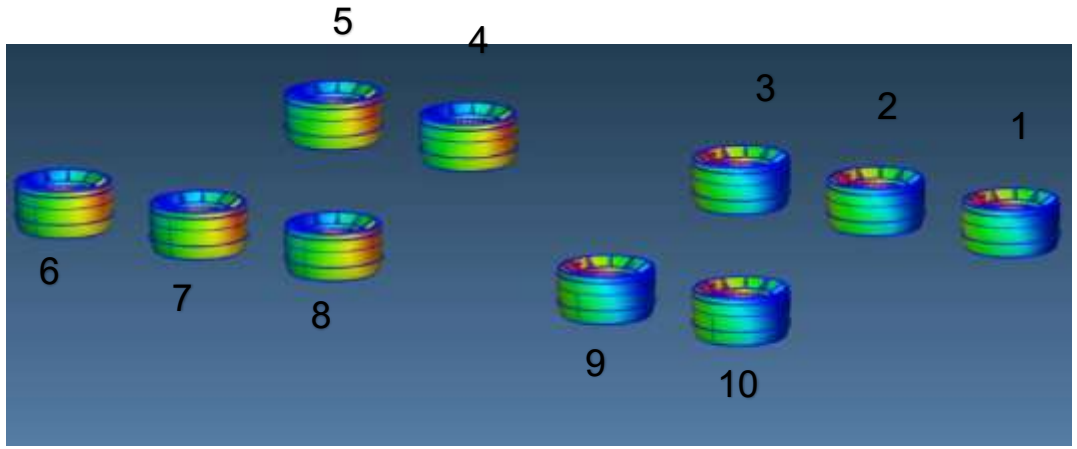


Temperatura linee di giunzione



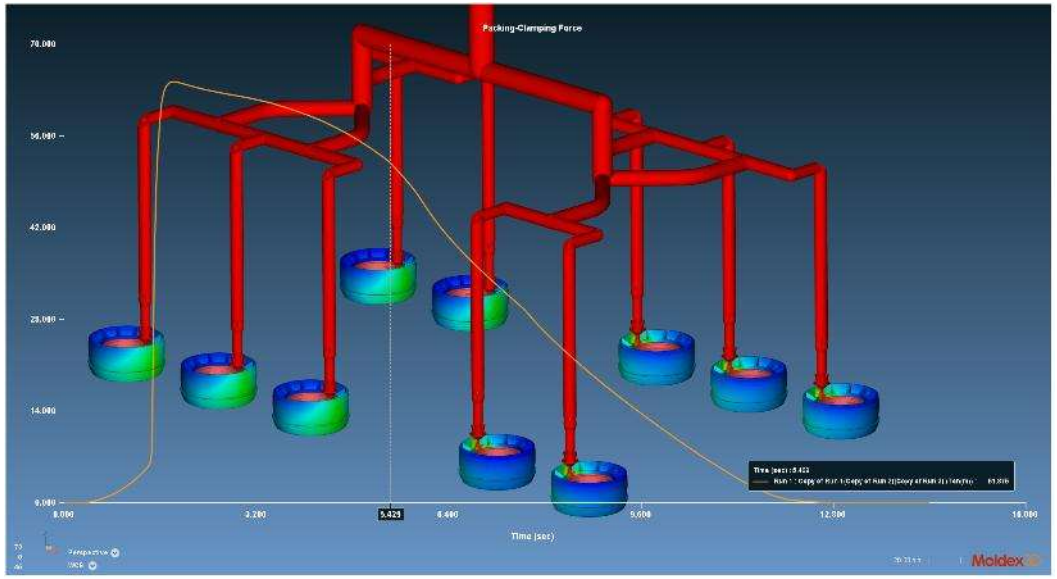
Temperatura fronte flusso

Compattazione



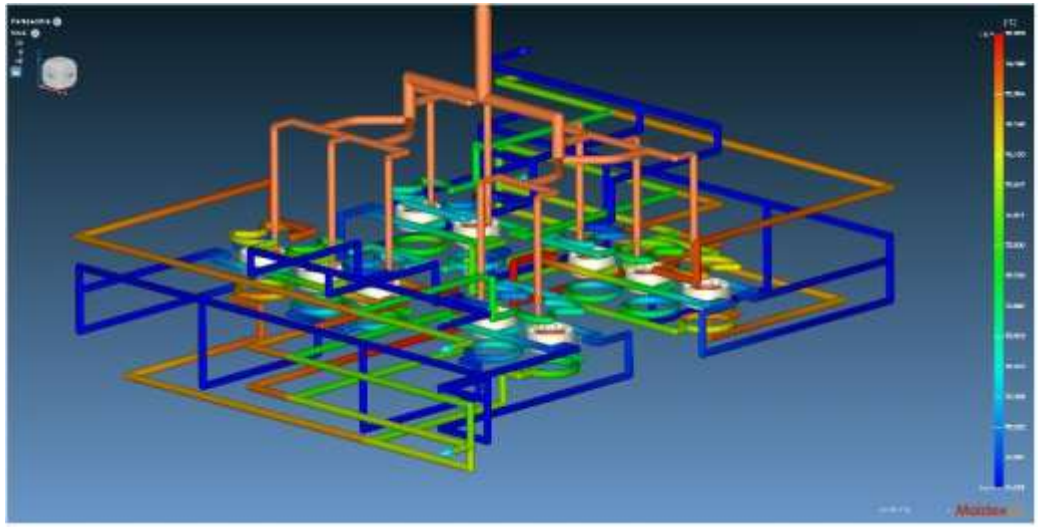
Time (sec) : 5.429
Run 1 : Copy of Run 1(Copy of Run 2)(Copy of Run 3)

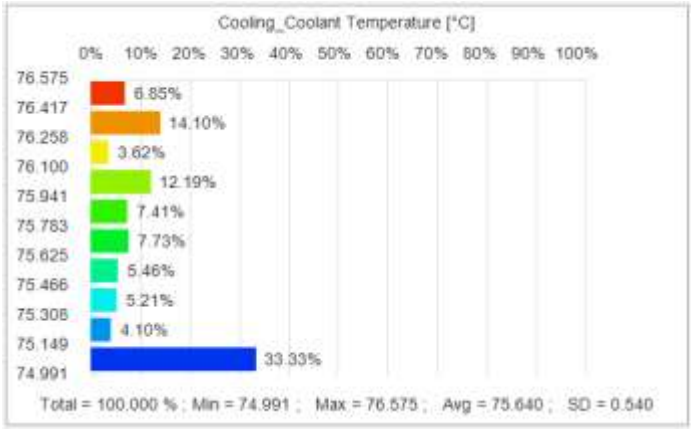
Total Weight (g) :	106.018
Part Weight : 1 (g) :	10.603
Part Weight : 2 (g) :	10.601
Part Weight : 3 (g) :	10.603
Part Weight : 4 (g) :	10.600
Part Weight : 5 (g) :	10.601
Part Weight : 6 (g) :	10.603
Part Weight : 7 (g) :	10.601
Part Weight : 8 (g) :	10.603
Part Weight : 9 (g) :	10.600
Part Weight : 10 (g) :	10.601

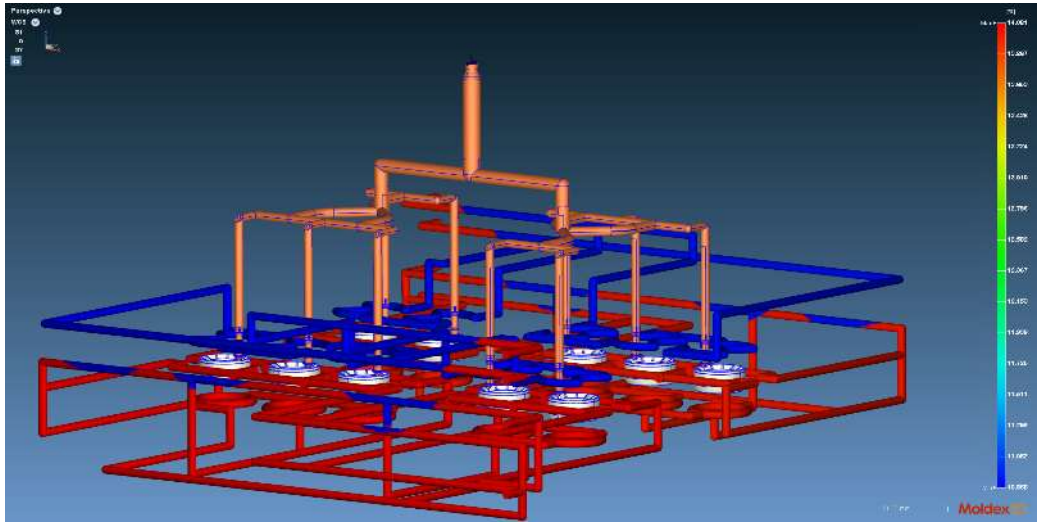


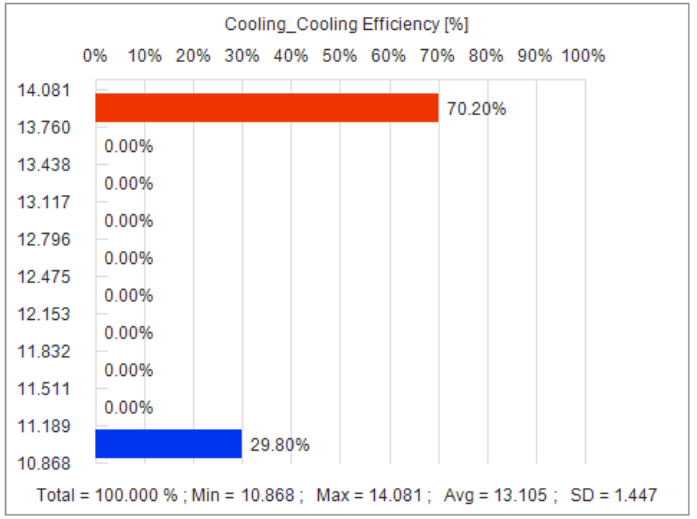
51.88 ton

Canali raffreddamento

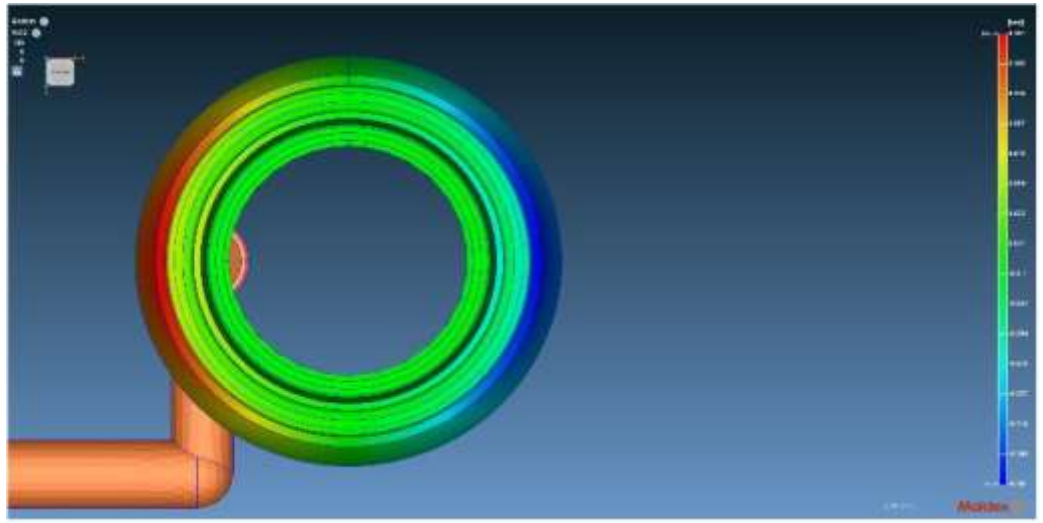


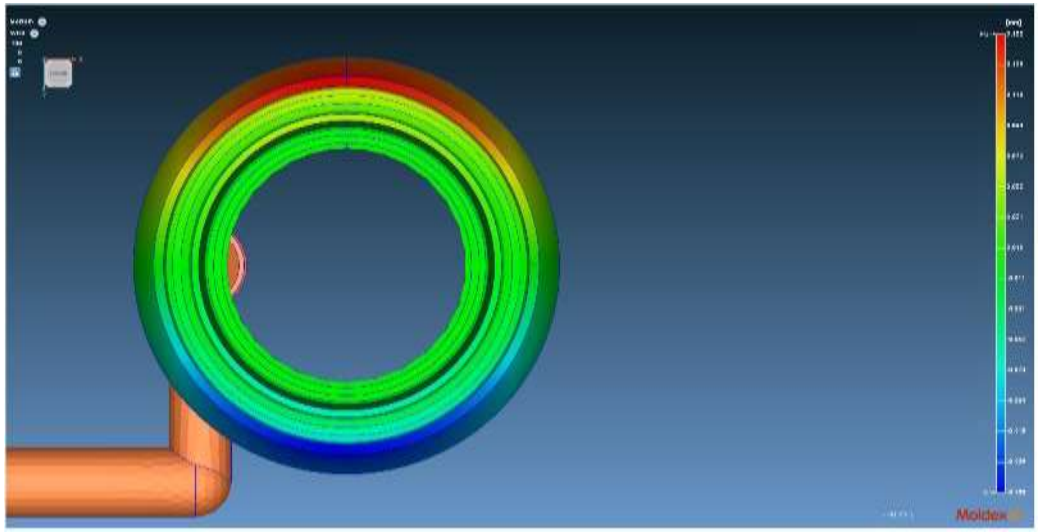


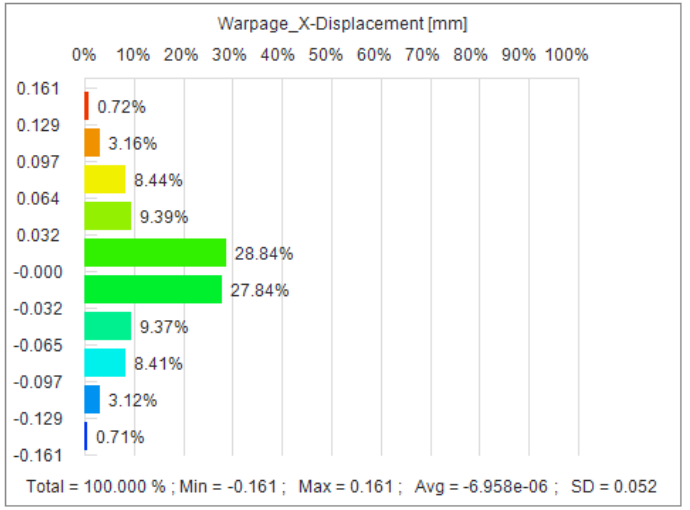


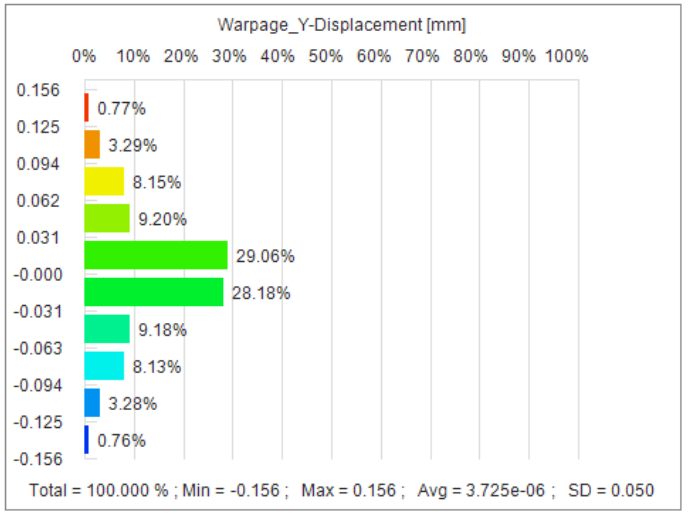


Warpage






Warpage_X-Displacement [mm]
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
0.161
0.129
0.097
0.064
0.032
-0.000
-0.032
-0.065
-0.097
-0.129
-0.161
0.72%
3.16%
8.44%
9.39%
28.84%
27.84%
9.37%
8.41%
3.12%
0.71%
Total = 100.000 % ; Min = -0.161 ; Max = 0.161 ; Avg = -6.958e-06 ; SD = 0.052


Warpage_Y-Displacement [mm]
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
0.156
0.125
0.094
0.062
0.031
-0.000
-0.031
-0.063
-0.094
-0.125
-0.156
0.77%
3.29%
8.15%
9.20%
29.06%
28.18%
9.18%
8.13%
3.28%
0.76%
Total = 100.000 % ; Min = -0.156 ; Max = 0.156 ; Avg = 3.725e-06 ; SD = 0.050

Conclusione

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Moldex3D garantisce vantaggio competitive ad Interroll, al fine di ottimizzare il processo di produzione ancora prima di “toccare” l’acciaio

Per il sovrastampaggio dell’housing, la sfida riguardava garantire una qualità elevata su un componente chiave, rivisto con una nuova tecnologia

Moldex3D ha permesso ad Interroll di valutare potenziali rischi per mitigarli oppure per affrontarli coscientemente

Thank you