

Use of this presentation

This presentation can be used for

- product promotion to our customers



ArcelorMittal



Improved Surface on Hot-Rolled Products

*MASC – Micro-Adhesive Scale,
Amstrong[®] – Superior surface offer*

Nov 2020

ArcelorMittal Europe- Flat products

Hot Rolled products

With Micro Adhesive Scale (MASC), Superior surface

Your need	Our solution
Ease of processing	Excellent surface quality due to thin, homogenous adhesive scale layer
Laser cutting consistency	Precise control of steel chemistry delivers highly homogenous product to improve laser cutting productivity
Lower maintenance costs	Cleaner workshop to avoid brushing before sheet forming, any surface treatment (sand blasting)
Weldability	Excellent weldability
Product choice	Wide range of size formats, grades in structural and high strength low alloy (HSLA) hot rolled steel
Health & safety	Clean surface with minimum powdering during deformation means no fumes during cutting and forming operations



Process

Hot rolled products with Micro Adhesive Scale (MASC), Superior surface

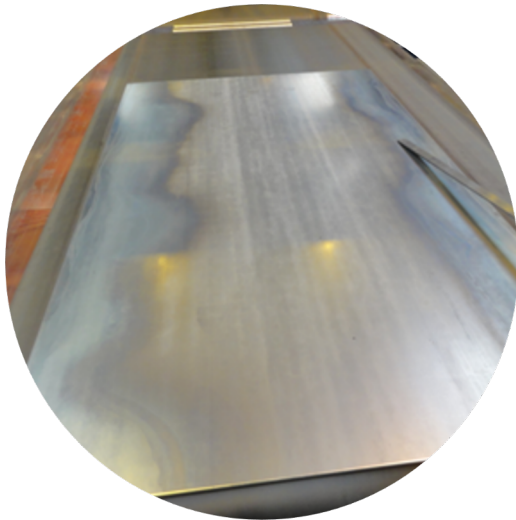
Advanced Surface Quality for HRS

The clean, hot-rolled surface is obtained by delivering an Oxide layer with good cohesion and adherence by:

- Transforming Wustite rich (FeO) oxide layer to decomposed Wustite rich (Magnetite Fe₃O₄ and α -Fe) scale
- Controlled rolling process with precise control of coiling temperature & finishing temperature

Scale composition and thickness results in enhanced cohesion to:

- Avoid cracks in oxide layer and ensuring no further oxidation during transport and storage
- Minimize risk of red rust formation and powdering during material forming*



*With dry storage condition & mandatory paper wrapping for MASC grades

Product description

Hot rolled products with Micro Adhesive Scale (MASC), Superior surface

- Black as hot rolled product with clean surface, low powdering. Suitable for laser-cutting
- The product offers higher productivity due to higher surface cleanliness
- Thickness of adhesive scale, depending on strip thickness, could be up to just half of the thickness for standard, black as hot rolled

Typical appearance

- Grey thin adhesive scale with partly blue colored strip edges. Dry storage conditions provide protection against humidity and ensures adhesion of scale.
- For MASC products mandatory paper packaging ensures additional protection of scale



Strict internal controls to ensure quality

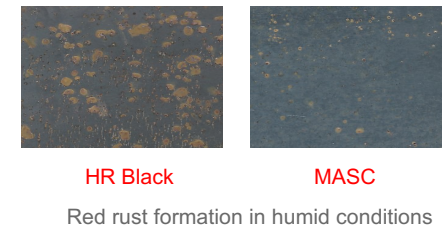
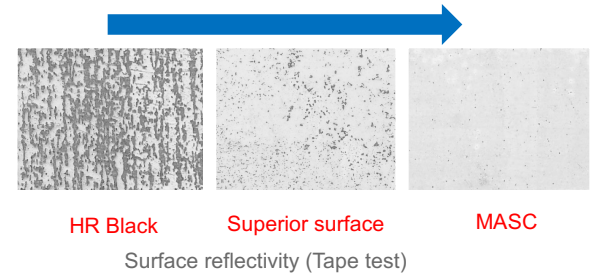
Hot rolled products with Micro Adhesive Scale (MASC), Superior surface

Surface quality evaluation

Surface
Cleanliness

Scale
Adhesion

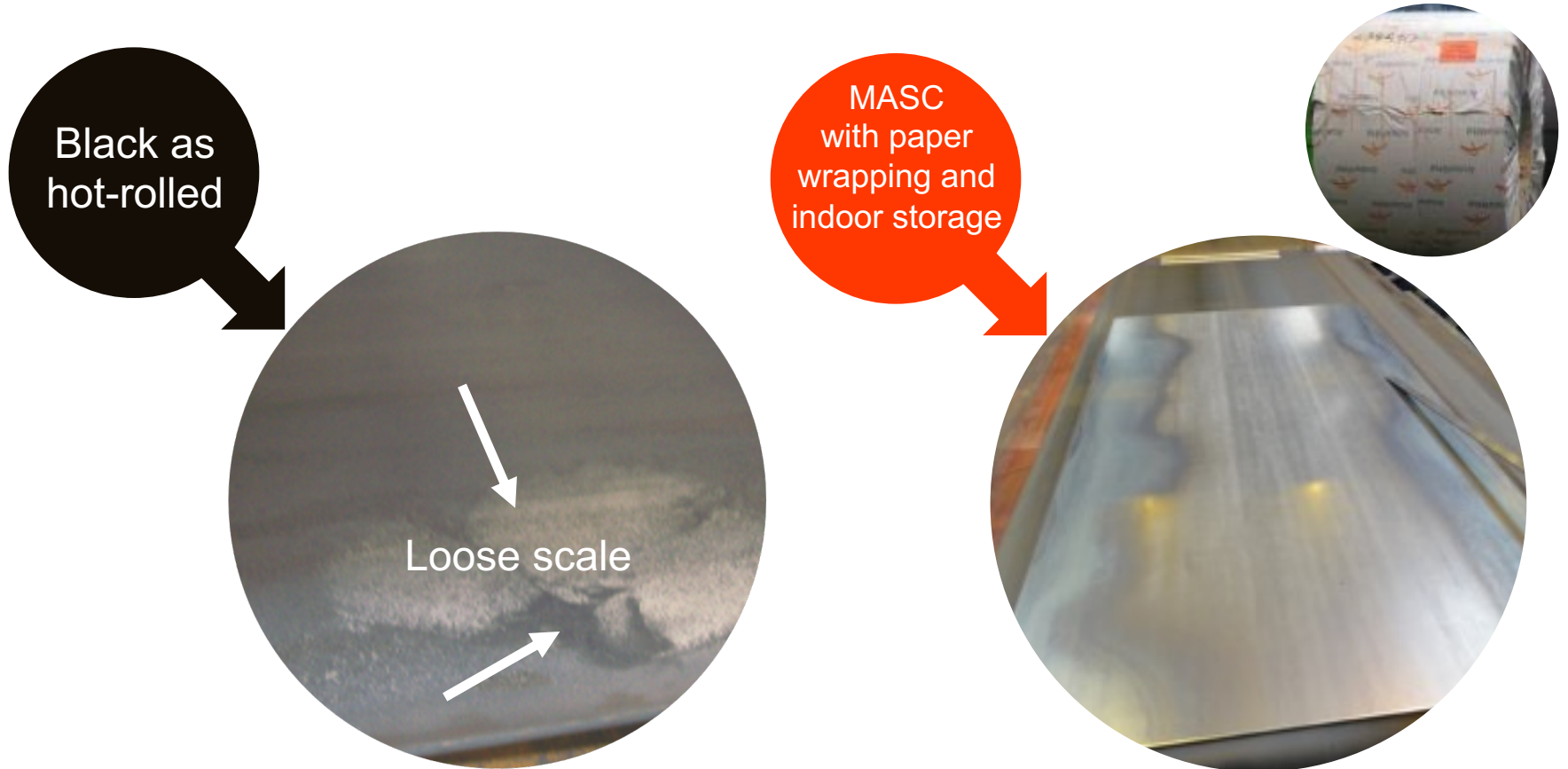
Corrosion
Control
(MASC grades)



Controlled logistics, Indoor storage

Hot rolled products with Micro Adhesive Scale (MASC), Superior surface

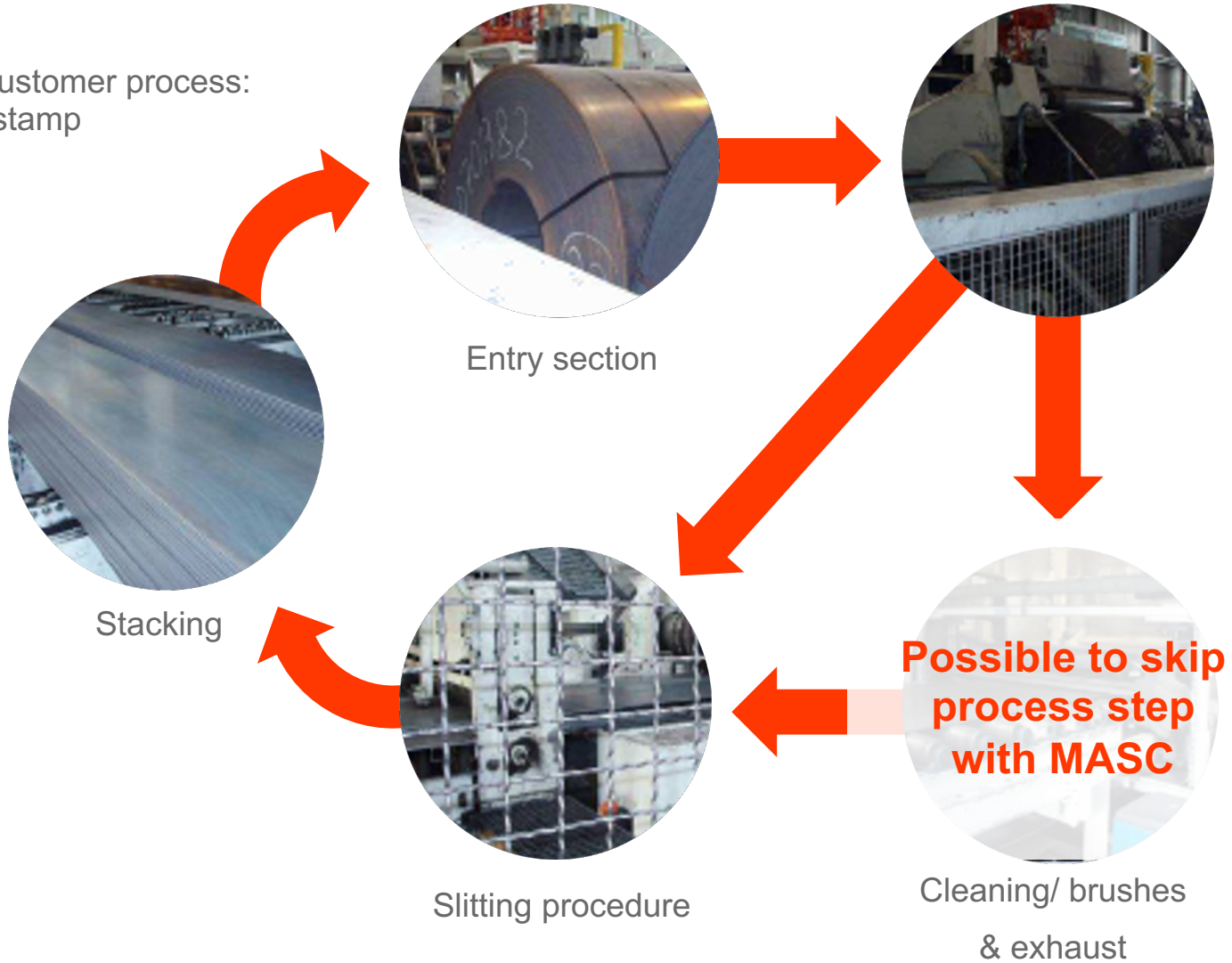
ArcelorMittal provides paper packaging and indoor storage to ensure full adherence of scale to protect surfaces



Benefits for customer process

Example with Micro Adhesive Scale (MASC) usage

Example of customer process:
Courtesy Gestamp



Benefits

Hot rolled products with Micro Adhesive Scale, Superior surface

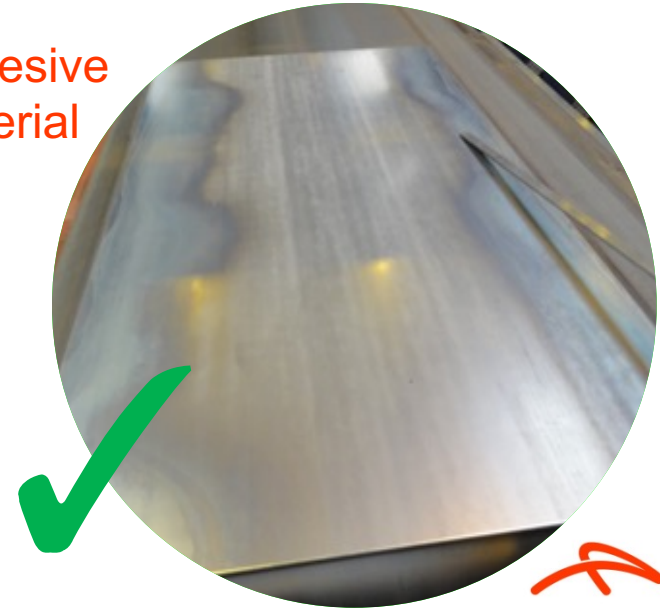
The benefits are clear...

- Lower levels of carbon, silicon, sulphur and phosphorus (IP conforming grades)
- Suitability for batch galvanisation Class 1 (Si<0.03%)
- Overall cost saving on material processing
- Ease of marking on coils
- Weldability (low CEV)
- Toughness at low temperature* @ -20° C : standard offer
- Toughness at low temperature* @ -40° C : premium offer

Standard black material



Micro-adhesive scale material



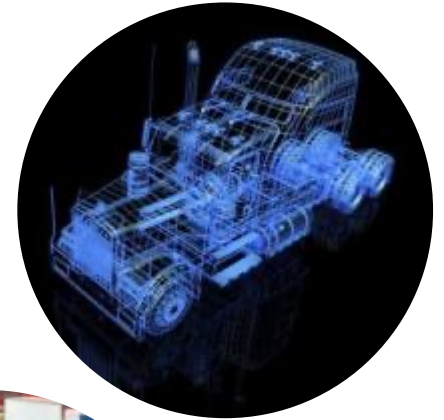
Applications

Hot rolled products with Micro Adhesive Scale, Superior surface

The MASC range and Armstrong® with superior surface can be used for a wide variety of applications depending on the customer requirement. Typical applications include...

- Excavation and agricultural machinery
- Truck safety parts like side beams
- Other applications like trailer parts and chassis members
- Machine profiles
- Construction profiles
- Machine frames
- Racking and shelving

And many more...



ArcelorMittal

ArcelorMittal range

Hot rolled products with Micro Adhesive Scale

Thickness range (mm)	Min width (mm)	S235J0_MASC, S235JR_CL1_MASC, S235J2_MASC, S235J2+N_MASC	Amstrong®355MC_MASC, S355MC_MASC EN 10149-2
		S275J0_MASC, S275JR_MASC, S275J2_MASC, S275J2+N_MASC	Amstrong®500MC_MASC, S500MC_MASC EN 10149-2
		S355J0_MASC, S355JR_MASC, S355J2_MASC, S355J2+N_MASC	Amstrong®550MC_MASC, S550MC_MASC EN 10149-2; E500TM_MASC
			Amstrong®600MC_MASC, S600MC_MASC EN 10149-2
		Max width (mm)	Max width (mm)
2.0≤th≤10	800	2000	2000
10.0<th≤15.0	800	2000	2000



ArcelorMittal range

Hot rolled products with Superior surface

	Feasible range	Feasibility on request
Structural grades : S235/275/355 JR/J0/J2/J2+N,K2/K2+N	T= Thickness : 2-10 mm Width : 800-2000 mm	Thickness : 10-15 mm Width : 800-2000 mm
HSLA grades : Amstrong® 315MC/ Amstrong® 355MC/ Amstrong® 390MC/ Amstrong® 420MC/ Amstrong® 500MC/ Amstrong® 550MC/ Amstrong® 600MC	Thickness : 2-10 mm Width : 800-2000 mm	Thickness : 10-15 mm Width : 800-2000 mm

Contacts

Hot rolled products with Micro Adhesive Scale

For further product information please contact
your Client Technical Support Managers directly.

Thanks for your attention...

<http://fce.arcelormittal.com>

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