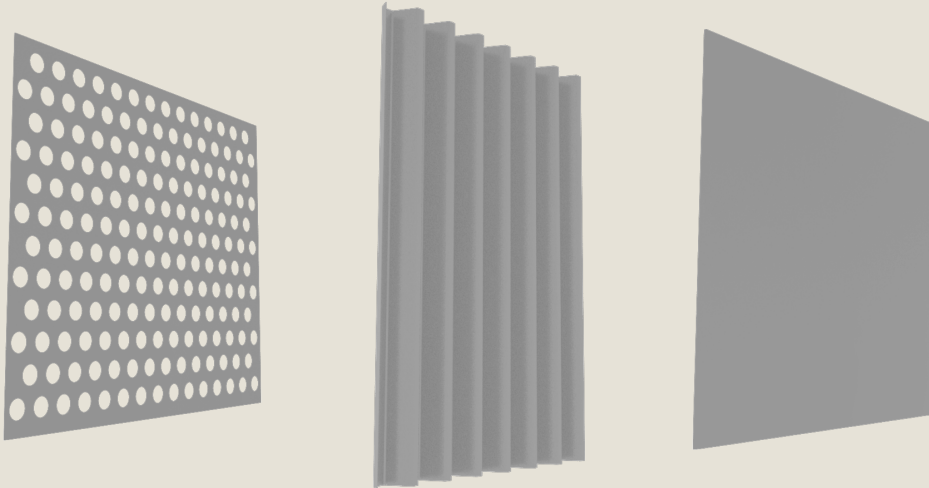**ArcelorMittal**

Enamelled steels
Grey

Product:	**Enamelled steels**
Color & Texture:	**Grey**
Application:	Facade

Product description: properties

Enamelled steel used in facade, architectural panels or tunnel siding is a material that fully meets modern-day expectation in terms of durability, iconic aesthetics, hygiene and respect of the environment. ArcelorMittal offers the widest range of steel grades specially designed for the enamelling process.

- **Very good chemical resistance**
- **Excellent resistance to abrasion and scratching**
- **Outstanding resistance to corrosion and ultra-violet (UV) light**
- **Resistance to the effects of atmospheric pollution & Fire resistance**
- **Hygiene & ease of cleaning characteristics**

Advantages

ArcelorMittal offers the widest range of steel grades specially designed for the enamelling process:

- Decarburised steel for direct-on enamelling: Solfer® and Solfer®+
- Surface-decarburised steel intended for the two-coat/one-fire enamelling process: Solfer® CA
- New structural cold rolled steel for panels applications with guaranteed mechanical properties after enamelling: HC300EK

The enamelling process consists in the application and subsequent firing at high temperature (830°C) of one or more layers of enamel on to the carefully prepared surface. firing at high temperature creates a strong, indestructible fusion between the enamel and its substrate, which together form a new, stable material.

BIM object content

ArcelorMittal Europe – Flat Products digital material pack includes:

Folder: "Material Files"

Autodesk® Revit® model - .rvt file (v. 2015)

Graphisoft® Archicad® model - .aat file to import by using of the Attribute Manager

Chaos Group® V-Ray® material: .vrmat and .vismat files to import to the V-Ray render engine (Materials Browser)

Autodesk® Maya® material: .mb file to import to the Materials Editor

Simple texture: .jpg file to use in a software without an advanced rendering engine (sample size 10x10 cm)

Additional files attached to the digital material:

Folder: "Examples of applications on building elements":

Includes short animations (mp4) with presentation of the material on different building elements: flat panel, perforated sheet, ribbed profile.

Folder: "Examples of applications on the buildings"

Includes: 3 views with different zoom factors of the same building with ArcelorMittal Europe – Flat products material added to the external elevation.

The correct way of using ArcelorMittal Europe – Flat Products digital materials has been optimized to typical and very simple procedures suitable for design environments.

To use ArcelorMittal Europe – Flat Products digital materials the user needs only enter files by using of common ways described in the software documentation.

Below, there is the video example of using ArcelorMittal Europe – Flat Products material in the Autodesk Revit environment (Autodesk® Revit® 2016, examples with built-in Autodesk® Revit® render engines and Chaos Group® V-Ray® engine which requires additional installation in the Autodesk® Revit® environment).

http://constructalia.arcelormittal.com/en/tools/bim

Recommendation for optimal use

By using of our BIM files (Autodesk® Revit®, Graphisoft® Archicad®) or files including settings dedicated for render engines you can easy apply our materials to your building elements.

In design environments for which they were prepared, just load attached BIM files or settings files.

Due to existing of the many rendering engines you can also define your rendering parameters manually. Below is the list of suggested settings for Enamelled steel / Grey / Facade

Suggested settings of rendering material:

1. DIFFUSE:
Enclosed texture: Enamelled-Steel_simple-tex_512.png
Real bitmap size: 1000mm x 1000mm

2. REFLECTION:
Fresnel IOR = 50
Reflection Glossiness = 0.8

Web sites - Where to find our BIM Objects ?
industry.arcelormittal.com
constructalia.arcelormittal.com