



# CORNERSTONE DUV Lithography Services

## Reticle Ordering Form Guidance

This document is a walkthrough of the reticle order form, aiming to explain the necessary information we need to order a reticle for CORNERSTONE’s DUV lithography service.

If you require details of the system alignment marks to include on previous layers on your wafers, we require that you sign an [NDA](#) with us before we can share the alignment mark gds file. To request this, please [contact us](#).

### Part 1 – User Details

The first part of the form asks you to fill in your basic information like who you are and how we contact you.

#### User Details

Name *	<input type="text"/>
Email address *	<input type="text"/>
Company *	<input type="text"/>
Telephone number *	<input type="text"/>

### Part 2a – Reticle Details

#### Design Details

What is your GDS file name? *	<input type="text"/>
What is the top cell in your GDS file? *	<input type="text"/>
Please enter the coordinates of the bottom left corner of your design *	<input type="text"/>
Please enter the coordinates of the top right corner of your design *	<input type="text"/>
What is the GDS number to be written on the reticle? *	<input type="text"/>

#### a). What is your GDS file name?

Please enter the name of your GDS file.

#### b). What is the top cell in your GDS file?

This is the cell at the top of the hierarchy that will be patterned onto the reticle.



**c). Please enter the coordinates of the bottom left corner of your design.**

Please enter the coordinates in the extreme bottom left corner of your design file in microns. The coordinates are used to correctly centre your design on the reticle.

**d). Please enter the coordinates of the top right corner of your design.**

Please enter the coordinates in the extreme top right corner of your design file in microns. The coordinates are used to correctly centre your design on the reticle.

**e). What is the GDS number to be written on the reticle?**

If multiple overlaid reticles are required, please complete multiple order forms and list only a single GDS layer number in this field. If multiple GDS layers are required where they are not overlaid, separate the GDS layer numbers by commas.

## Part 2b – Reticle Details

Should the features drawn in the GDS file be clear or chrome on the reticle? \*

Clear  
 Chrome

Please select the required reticle specification \*

Standard  
 High  
 Ultra-high

Do you require a pellicle on the reticle? \*

Yes  
 No

What is the critical dimension? \*

Is the critical dimension digitised? \*

Yes(feature)  
 No(gap)

What are the coordinates of the critical dimensions? \*

**a). Should the features drawn in the GDS file be clear or chrome on the reticle?**

The CORNERSTONE DUV lithography service uses a positive tone resist. This means that exposed areas are developed to leave a gap in the resist. This should be considered when selecting whether the drawn features in your GDS file should be clear or chrome on the reticle.

**b). Please select the required reticle specification.**

Refer to the table below, replicated from the [DUV lithography service page](#) to determine the required reticle specification.

\*Note that the feature size is shrunk by 4x on the wafer relative to the reticle. Users should submit their GDS file with dimensions as on the wafer. The mask shop will perform the 4x expansion of feature size.

Reticle Grade	Pellicle	Address Size Reticle (µm)	Min. Feature Size Reticle (µm)	Min. Feature Size Wafer (µm)*	CD Tolerance Reticle (µm)	Defect Density (µm)	Cost (£)
Standard	No	0.0625	2	0.5	0.15	0>1.0	£790
High	No	0.005	0.8	0.2	0.08	0>0.5	£1,350
Ultra-High	No	0.005	0.5	0.125	0.03	0>0.25	£2,595
Standard	Yes	0.0625	2	0.5	0.15	0>1.0	£955
High	Yes	0.005	0.8	0.2	0.08	0>0.5	£1,580
Ultra-High	Yes	0.005	0.5	0.125	0.03	0>0.25	£2,935

**c). Do you require a pellicle on the reticle?**

A pellicle is a protective film which is placed out of the focal plane on the reticle to protect it from dust and other particles. This is typically only used for production reticles which are frequently used.

**d). What is the critical dimension?**

Please list the critical dimension of your GDS file in nanometres. This is normally the smallest dimension in your design and cannot be smaller than the minimum feature size specified for the desired reticle specification (see table above).

**e). Is the critical dimension digitised?**

Please select whether the listed critical dimension has been digitised/drawn in your GDS file or whether it is a gap between 2x digitised/drawn features.

**f). What are the coordinates of the critical dimensions?**

Please list the coordinates in your GDS file where the critical dimensions are located (in microns). This information is required to enable the mask shop to perform quality checks on the reticle before shipping it to us.



## Part 3 – Payment Information

### Payment Information

Please upload your purchase order \*

No file chosen

I agree to the [Terms and Conditions](#) and I am authorised by my Organisation to do so \*

Do you have any comments?

#### **a). Please upload your purchase order.**

Please upload the purchase order here.

#### **b). I agree to the T&Cs and I am authorised by my Organisation to do so**

Please agree to our T&Cs as well as confirm you have been authorised by your organisation to do so.

#### **c). Do you have any comments?**

Please leave any comments here.