Implementation of cold stop on SM12 A and B.
SPIRE-LAM-NOT-001682
V. 02
KD 220502

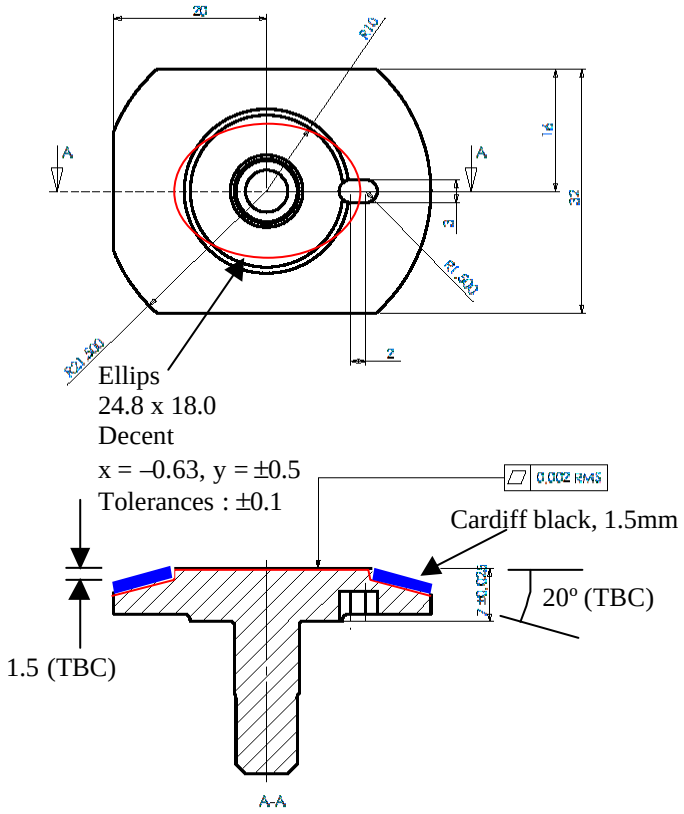
According to discussions concerning spectrometer stray light performance, it has been decided to change the shape of the SM12 A and B mirrors. The overall size and shape of the mirrors remain the same, but the reflecting surface is reduced and surrounded by ”Cardiff black”. Cardiff black is made of EpoTek 920 epoxy (Epoxy Technologies) loaded with Carbon lamp black with a deep pyramidal pattern printed into it.

To avoid this to extend out of the plane of the mirror, and to clearly define the active area, the non-optical (surround) area is machined into the mirror substrate. To avoid interference effects between the signal beam and residual scatter from the surround, the surround is bevelled at TBD angle.

The size and position of the active mirror surface is defined in the SPIRE config file. Extract from SPIREconfig40:

CompName	**System**	**Flag**	**Type**	**Dia or Dsag**	**Dtang**	**Csag**	**Ctang**
SM12A	Spec	Mirror	Ellips	24.800	18.000	-0.630	0.500
SM12B	Spec	Mirror	Ellips	24.800	18.000	-0.630	-0.500

Extract from the original SM12 drawing with the new shape superimposed in red, Cardiff black in blue:



NB : Question asked : What about bi-laminar effect?