IndexingDates

Solr expects dates to be in UTC when indexing (except Solr Cell and the DataImportHandler, which have some leeway on transforming dates from various formats because they are pulling data and do not have the same control.) Specifically, from the Example schema.xml, the comment says:

The format for this date field is of the form 1995-12-31T23:59:59Z, and is a more restricted form of the canonical representation of dateTime http://www.w3.org/TR/xmlschema-2/#dateTime
The trailing “Z” designates UTC time and is mandatory. Optional fractional seconds are allowed: 1995-12-31T23:59:59.999Z All other components are mandatory.

Expressions can also be used to denote calculations that should be performed relative to "NOW" to determine the value, e.g.:

NOW/HOUR
   ... Round to the start of the current hour
NOW-1DAY
   ... Exactly 1 day prior to now
NOW/DAY+6MONTHS+3DAYS
   ... 6 months and 3 days in the future from the start of the current day

Consult the DateField javadocs for more information.