```
int_lower_ind  THM

⊢  ∀i:ℤ, E:({...i}→Prop).
|  E(i) ⇒ (∀k:{...i-1}. E(k+1) ⇒ E(k)) ⇒ (∀k:{...i}. E(k))
| by UnivCD
|
1. i : ℤ
2. E : {...i}→Prop
3. E(i)
4. ∀k:{...i-1}. E(k+1) ⇒ E(k)
⊢  ∀k:{...i}. E(k)
| by Inst:
|    Thm* ∀n:ℤ. WellFnd{i}({...n};x,y.x>y)    {int_lower_well_founded}
|    Using:[lexpr{u} | i]
|
5. WellFnd{u}({...i};x,y.x>y)
⊢  ∀k:{...i}. E(k)  by BackThru: Hyp:-1
|
6. j : {...i}
7. ∀k:{...i}. k>j ⇒ E(k)
⊢  E(j)  by Decide: j = i
|
|\
| 8. j = i
| ⊢  E(j)  by Rewrite by j = i
|
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. 8. ¬j = i
. ⊢  E(j)  by BackThru: Hyp:4
. |
. ⊢  E(j+1)  by BackThru: Hyp:7
END
```